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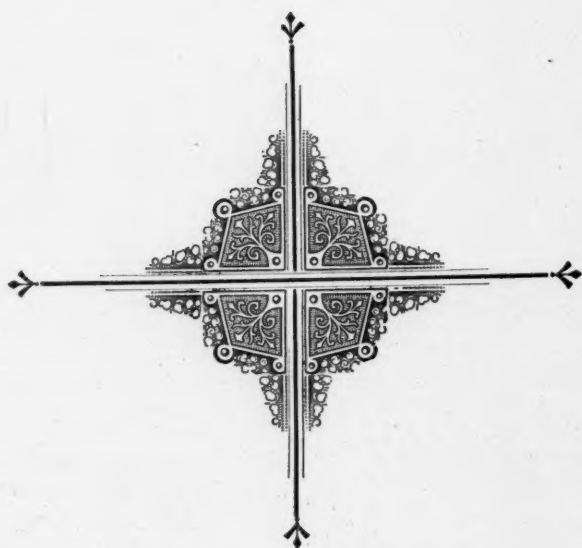
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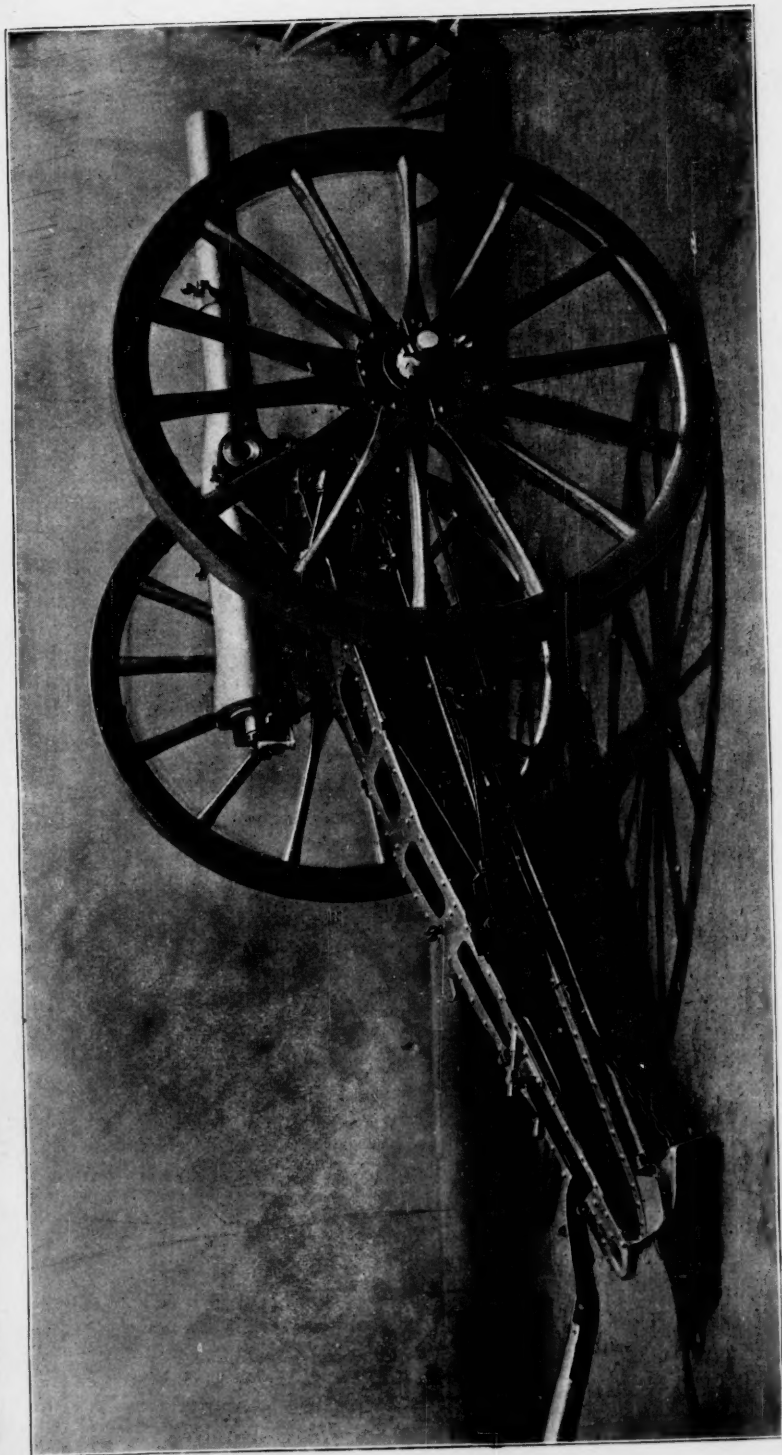
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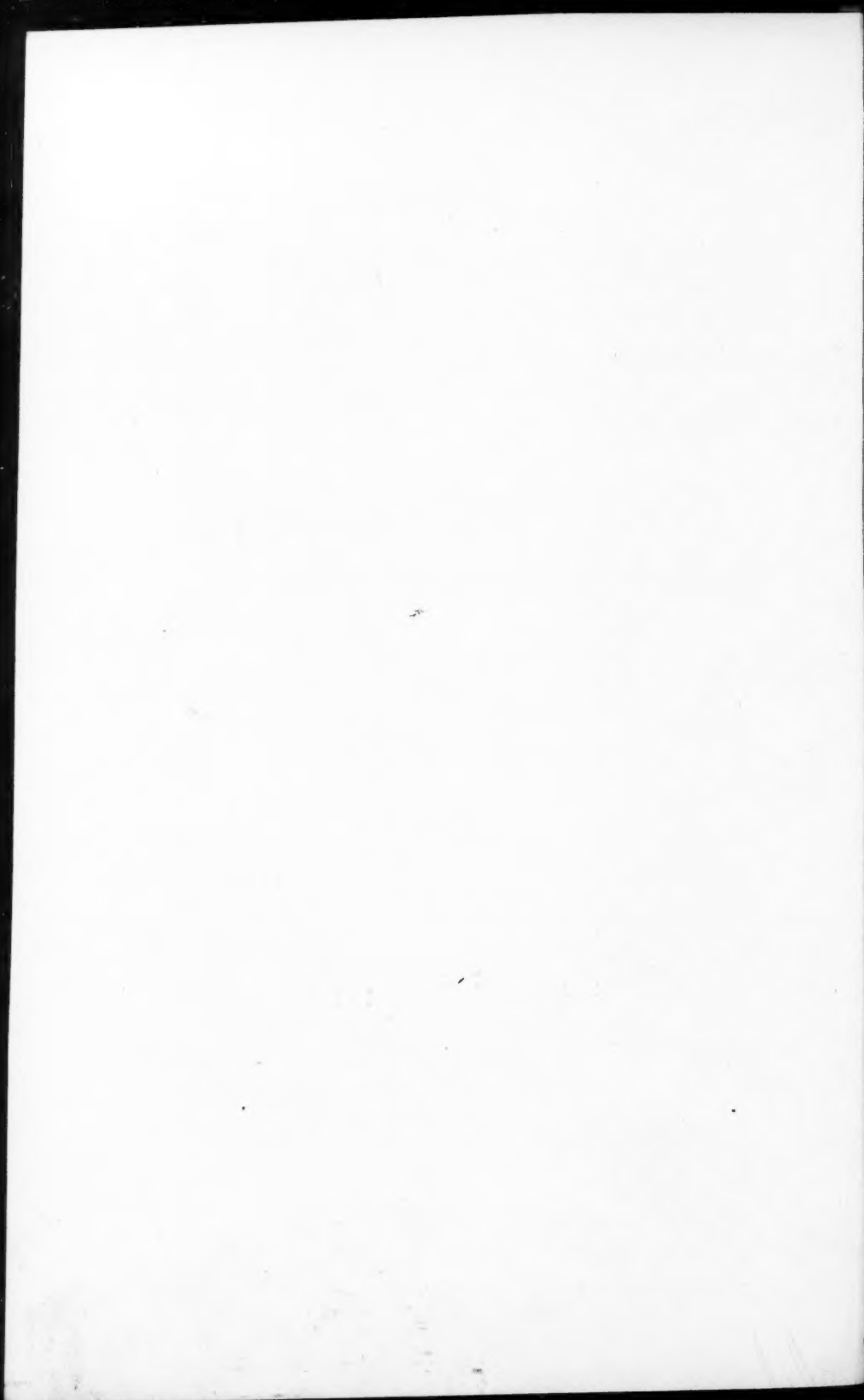
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Firing aimed rounds at the rate of 14 per minute.

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THE JOURNAL

OF THE

ROYAL UNITED SERVICE INSTITUTION.

VOL. XLII.

AUGUST, 1898.

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COMPULSORY SERVICE FOR HOME DEFENCE.

By Lieut.-Colonel H. C. BOYES, London Rifle Brigade.

Wednesday, April 27th, 1898.

Colonel the Rt. Hon. J. H. A. MACDONALD, C.B. (Commanding the
Forth Volunteer Infantry Brigade), in the Chair.

THIS paper was originally written for a small private literary society of by no means a military type. I was strongly urged by an old Volunteer comrade who heard it read to take some steps to make my views public, and with some reluctance and much diffidence I decided to offer the paper to the Council of this Institution. I am fully conscious that it can be of little value and is hardly fit for discussion here, as containing merely crude suggestions on a military subject of vast national importance by one whose only claim to be heard is that he is a citizen who for five-and-thirty years has been doing his best to be of some small military use to his country under a voluntary system, and who, while he has no wish unduly to disparage that system, believes that the time has now arrived when it is necessary to reconsider very carefully our military position and requirements with especial reference to it.

Any proposal or suggestion in the direction of compulsory military service in this country is usually met by arguments savouring of the Podsnappian method. It is generally swept aside with a wave of the arm as entirely out of accord both with the spirit of our enlightened age and the traditions of our free country. We are assured that any Government which should attempt to deal with the admitted difficulties of our military position by any steps in the direction of compulsion would have

but a brief remainder of existence, and that therefore no British statesman would be so mad as to entertain such an idea for one moment. Bold assertions of this kind are frequently accepted, as it seems to me, in a somewhat unthinking manner. I propose, briefly, to try and put them to the test.

As has frequently been pointed out of late, there are not wanting signs in our modern legislation of a tendency towards increased interference with the liberty of the subject as formerly understood, and this in many directions where it is believed that a certain amount of restraint on individualism is necessary for the well-being of the community generally. Unrestricted freedom may degenerate into unregulated license, and the attempt to arrive by this road at the greatest happiness of the greatest number may prove a most disastrous journey. How far we can regulate and control our freedom without materially impairing it seems now to be the greatest political problem of the day. Modern legislation is largely made up of attempts to make people healthy and wise, if not wealthy, who if left to the exercise of their own individual proclivities, or if subjected to the uncontrolled power of others, would stand very little chance of being either. Thus we see, almost without protest, factory acts, employers' liability acts, compulsory vaccination, sanitation and education acts, as well as constant attempts at the enforcement of compulsory morality and sobriety; compulsory charity in the shape of rate-supported workhouses and asylums, soon, perhaps, to receive a great extension by means of a system of old-age pensions provided compulsorily out of the funds of the community at large; and in face of the difficulty of voluntarily providing funds to keep up our great hospitals, we are daily getting nearer to the time when these, if they are to continue to exist, must be supported, or at any rate largely aided, by State or Municipal contributions. We can hardly go to a music-hall or drink a glass of beer except under stringent regulations framed by good and wise county councils and others for our benefit—soon, perhaps, we may not be allowed to do so at all. Everything that we do in the way of housing or feeding ourselves is subject to regulation and inspection. We may not, if Government, whether State or Municipal, can prevent it, be either ignorant or dirty, we may not be either starving or drunken, and yet we are to be told that in such a matter as the highest of all public duties, viz., the efficient defence of the country, on which our very existence as a nation depends, any step in the direction of compulsion is foreign to the spirit of the age, although voluntarism in respect of everything else is breaking down and being abandoned. Though probably everyone who urges this would admit that if we experienced some great national military disaster we should, perforce, have to change our system; yet we are to understand, as an enlightened and practical people, it is a premature and yet a retrograde step to shut the stable door until the steed has been stolen.

The assertion that compulsory military service is contrary to our national traditions will still less bear examination if by tradition we mean something handed down to us from our forefathers. The country grew up

and the Empire was built under compulsory systems. The Middle Ages had their feudal system. In later times, when we began to find that to rule the waves was Britannia's special function, the pressgang became a necessity of our existence, the sea being our vital point. On land enormous difficulties were encountered in the attempt to keep up the appearance of voluntarism, and this only so far as our professional Army was concerned. It was only with a standing professional Army that the idea of voluntary service came in; and in the great wars of last century and early part of this, in spite of huge bounties to volunteers, the ranks of the Army were to a very great extent filled by those who left their country for their country's good, and were allowed to choose between transportation and a transport.

The ballot for the Militia is still a legal reality, and could at any time be put in force by Government, and compulsory service of one's country is still the rule in the case of sheriffs and juries. Our Church in her Articles recognises the fact that "it is the duty of a Christian man at the command of a magistrate to carry weapons and serve in the wars."

Still, there is of course a good deal of truth in the assertion so often made in after-dinner speeches on the Services that all those who are now serving Her Majesty in her Naval and Military Services are doing so voluntarily. This may be a fair subject for boasting, but as a tradition it is certainly not an ancient one. And, regarded as a boast, there is another side to the question. Abroad it is regarded as a national patriotic duty that every man should take his share in the national defence. Is it fair or right that the whole burden of this should fall only on the shoulders of those who voluntarily offer to bear it?

But there are other and more respectable arguments which are sometimes advanced against compulsion. There are those who believe that the voluntary system is more suited to our national characteristics and tastes, and there are those who think that it gives us a better Army than compulsion would, on the ground that "One volunteer is better than two pressed men." I believe, by-the-by, that the experience of our Navy in the pressgang days when opportunity was given for watching and testing the merits of the two systems existing at the same time side by side did not tend to bear out the truth of the proverb.

There are also those who hold that even if compulsion be necessary in the last resort, there are still many ways of improving our military position and developing our resources which have not yet been tried, and which offering, as they do, fair chances of success should be tried before recourse is had to compulsion.

Such arguments will, of course, have weight with those who think compulsory service in itself a bad or wrong thing. I wish to offer a few considerations which lead me to the conclusion that the form of compulsory service for home defence which I am about to suggest would be neither, but that, on the other hand, it would be advantageous not only to the nation, but to individuals, and that even if not absolutely necessary for our safety it is calculated to produce much better results than any voluntary system can.

No consideration of the subject of Home Defence can be adequate or satisfactory which excludes that of the military needs of the Empire generally. Any proposed defensive system which does not fit in with our requirements in the provision of necessary forces for foreign and colonial wars needs only to be proposed to be abandoned. This must be my excuse if I venture upon ground on which I feel I am hardly qualified to tread, and briefly discuss the present state of affairs with respect to the provision of men for the land forces of the Crown. In doing so it becomes necessary to ask the question how far it is possible that a voluntary system under strain of war can be made to meet our requirements. The limits of this paper, as well as my own want of technical knowledge, prevent me from going into great detail, but speaking generally it seems to be almost universally acknowledged that we do require both a foreign service and a home defence Army. The theories of those who hold that a Navy alone, however strong, is sufficient for our national defence, have never been so far accepted as to make it necessary here to make any attempt to rebut them. But it is sometimes said that in view of the enormous land forces of Continental nations we must for the future abandon the idea of taking part in war on the Continent, and confine our military policy to the defence of our Indian Empire, our Colonies, and our own shores. Such a notion seems to me to be a confession of weakness equivalent almost to the abandonment of our position amongst the nations of the world. Our frontiers are the opposite shores of all seas, and if we are to wage war successfully in the future as in the past it must be beyond our own frontiers. Again, such a notion seems to exclude the idea of ever forming Continental alliances, or, at any rate, involves that of seeing an ally defeated on land without making any effort to help him. Our island position makes it, of course, impossible for us to meet the armed nations of the Continent on their own ground on equal terms as regards numbers, as it makes it difficult for them to attack us in sufficient force to do us much harm if we are properly organised for defence; but it never has been, and I trust it never will be, the policy of this country to simply await attack.

We were told on the highest authority not long since, that in the event of war two army corps would be ready to make an expedition before the transports would be ready to take them. This may be held to be strong confirmation of the view that something beyond a merely passive defensive attitude is contemplated, in the event of another European war.

I wish we could have been informed what prospect there would be under our present system of voluntary enlistment of keeping up the necessary feeding process to replace the waste of men occasioned by the casualties of a campaign. It certainly seems to one not deeply versed in the details of our present organisation that in order to put even these two army corps in the field, the Reserves would have to be called upon at once. Fancy what would be the position of a bank, or other financial institution, if its constitution were so arranged that its so-called reserve funds were to be immediately employed as soon as it began business. We are told that we are now in a better position than ever we were before to

engage in a war, because of our Army and Militia Reserve. We are glad to hear it; but we still ask, Are we sufficiently prepared? Where are the arrangements for that systematic feeding of the Active Army from the Reserves, which we witnessed in the German Army in 1870-71 as a continuous uninterrupted process throughout the war? What assurance have we that men will be forthcoming, or that they can be trained in time to be of use? Does our experience of our last European war, that in the Crimea, lead us to think that our organisation in this respect is what it might be, and should be? Is it possible that a voluntary system can ensure this?

We are now attempting to increase our Army. Are we sure that when all has been done that can be done, and much more than ought to be done in the way of reducing standards of height, chest measurement, etc., that we can succeed in doing it? Of course it may be urged that in time of war the love of fighting and adventure, which is still strong in our population, will bring recruits. This is possibly to some extent the case, but they will be untrained men. Wars are now matters of weeks not years, and it takes more than weeks to train soldiers. A hastily raised, untried force, however brave and well-armed, means for the nation that relies on it another Bull's Run or Loire campaign.

But then we have the Militia and Volunteers, it will be said. Yes, and in them we have so far as numbers go, and so far only, a force sufficient, perhaps, for the defence of this country against invasion. In suggesting compulsory service for home defence, I must not be taken to imply that in time of war there would be any difficulty in raising voluntarily as many men as could possibly be required for such a purpose. Nor can it be denied that the fact, that even in peace-time some 350,000 citizens of a free country are ready and willing to devote a large portion of their time and energy, for the most part without pay, and entirely without compulsion, to fitting themselves as far as they can for military service in defence of their country, is a good indication of national health. But to make an Army even for home defence, something more than 350,000 armed and partially trained men are required. The first essential is organisation. A certain man who was asked to write an article for an encyclopædia on snakes in Ireland did so in these simple terms: "There are no snakes in Ireland." Any description of the organisation of our present Home Defence Army would I fear have to be very much on the lines of that celebrated article. But besides organisation there are a few other somewhat important matters to be taken into account, such as discipline and training, the knowledge of and practice in the use of arms, a staff and the brains of an Army, skilled officers and non-commissioned officers, particularly commanding officers. Will anyone assert that the condition of our Auxiliary Forces is satisfactory in respect of all these? That discipline and military skill do exist in them, perhaps to an extent greater than is generally supposed amongst professional soldiers, cannot be denied, but in the absence of organisation such good military qualities as do exist are more or less wasted. Again, it is difficult to over-estimate the extraordinary differences and varieties of military efficiency existing throughout

these forces, even amongst regiments supposed to be brigaded together and parading side by side. The difference between a really good Volunteer regiment—and there are many such—and a really bad one—of which, alas, there are many more—is not one merely of degree but of kind. In all essentials the first is a surprisingly good military engine, the second a worse than worthless one. It is probably this enormous difference between different corps that leads to the remarkably different views as to the military value of the whole force which we so constantly hear from competent military critics acquainted probably with one or two varieties only amongst the many existing. On the whole, the present Home Defence Army may be said to be a mass of most valuable material, practically almost unwrought and undeveloped.

Of course it will be said we have heard something very like all this before. If I am merely restating what is pretty well known, I do so in order that there shall be no misunderstanding as to the views I hold with respect to the existing state of things—and not that I hope to put before you any new or striking picture of them; and if it be true that all this is well known and understood, the more need there would seem to be for constant reiteration; since it is only by incessant driving home of facts that seem apparent into John Bull's head, that at last that slow-moving individual is induced to bestir himself.

Of course, too, we shall here again be met by the argument—If things are as stated why not try to mend them, if organisation is needed let us have it, if more discipline and training let us have them; but cannot this be done without a thorough change of our system from a voluntary to a compulsory one? Why not try reform before revolution? The answer seems to be that already given. The voluntary system which forms the basis of the whole structure of our Army has broken down. Patching will not do more than perhaps enable us to go on, as unsatisfactorily as we have been doing, for a short time longer. Change is inevitable. Why not face it at once? And in doing this, if we can make our Home Defence Army both the nursery and the reserve of our Active Army, a consistent, simple, and intelligible military system may be the result.

Let me now state roughly and in outline only a suggested scheme for a Home Defence Army, which may be found to meet these requirements.

It has been calculated that rather more than 300,000 men attain annually the age of 18 years in Great Britain and Ireland. A system of three years' service in the Home Defence Army would therefore give us a force of about a million. This force should in my judgment be organised on strictly local lines, for by Home Defence I mean not merely the defence of the home country but the actual defence of the homes of those composing it. I wish to see, in fact, an armed nation so organised for local defence that just as at fire alarm drill on board ship every man goes at once to his allotted station, so at a word from the military authorities at any moment every man of this great force should be at his pre-arranged post in his own district, and available for its

defence. So that should any invader appear—which, of course, he never would do under such circumstances—he would have to try to make his way through a most difficult country, defended by an armed population, trained, as they should be, especially in the necessary sort of fighting, that is to say not so much in manœuvring, in the open—a training no doubt essential for troops who may have to fight on those great open plains of the Continent, on which so many wars have been decided—but rather in the defence of and attack on localities, towns, villages, hamlets, farms, hedges, walls, woods, streams, ditches, railway cuttings, and embankments. The country should be held in such a way that every building should be a fort, and every ditch a trench—the invader finding himself opposed from the moment of landing as the French troops were at Saragossa, or by the Commune in Paris, only not merely by an armed mob, but by an organised trained and disciplined force.

I have read that in the paper-schemes of mobilisation which are supposed to be in existence in certain pigeon-holes in Pall Mall—but in which I confess I have always felt a certain distrust somewhat like that of the warrior for his armour which he had not tried—that the defence of London is to be entrusted to a great extent to Volunteers from Scotland, who are to be brought here when the emergency arises. This is mobilisation with a vengeance! What is to happen to Scotland if the invader prefers to make his attack there, we have no means of knowing; and pleased as we should all be to know that our distinguished Chairman of this afternoon is looking after our safety here, I for one, as a Londoner, cannot help feeling that there are quite enough men in London to defend it if need be, and that it would be a much more sensible and business-like arrangement to employ them to do so. Under a locally organised decentralised system of defence, too, the question of transport and supply—not really difficult in any case in a country so rich and so abounding in carts and horses—would be a very simple one; and with all garrison towns and all good strategic positions occupied by local forces, the Regular Army or so much of it as might be in the country at the time of invasion would act independently as a field force, capable of being readily moved to any threatened point with its regular train and full equipment for mobile warfare.

It will thus be seen that although, perhaps, at first sight my Home Defence Army of a million seems unnecessarily large; yet under a localised system, by which the country would be defensible and defended at all points by the men inhabiting the district attacked, it would not be too strong numerically for this purpose; and much of the confusion of moving the defence forces about from place to place, and arranging for their transport supply, commissariat, etc., would be avoided.

For a force of the nature I have indicated I believe that an amount of training rather more than that acquired by our best and most zealous Volunteers would be amply sufficient. In proposing, therefore, universal compulsory service for this force I think this need not involve that interference with the business life of the country which is so important and distasteful an element in the Continental military systems which makes

them so heavy a burden indirectly, apart from their direct cost, on the populations affected by them.

For the greatest portion of the force, the infantry, I would have the young man of eighteen, when first enrolled, devote two months to preliminary training in camp or barracks, and in each succeeding year of his service give up one week to training with his regiment in camp or garrison. This would be all the consecutive time required, and would not amount to more than is now generally taken as holidays. Judging from my own experience, and that of many other Volunteers, I do not believe any young man could have better holidays than he would thus get. In addition to this he should in each year of his service have to attend fifty times for drill, musketry or other instruction, particularly field entrenchment and hasty fortifications. These attendances should be arranged on half-holidays or Sundays—for why should not Sunday be devoted to the most important of all works of necessity, national home defence?—or at such other times as would not interfere with his trade or business avocations.

It would be necessary in order to secure a sufficiently high standard of efficiency in the cavalry, artillery, and engineers that men enrolled for these branches of the Service should devote more time to their training; but these need not be more in number or withdrawn from their civil occupations for a much longer time than the men now composing the Militia give, though it would be preferable that their training should be continuous—say that each man should give six months' service in garrison or barracks, as well as the fifty attendances per annum as proposed for the infantry.

Officers and non-commissioned officers should be allowed to serve for a longer period than three years, and the Active Army should be recruited entirely from the Home Defence Army both as to its officers and men. Thus no man would be enrolled in the Active Army until he had had already a fair amount of military training and had attained the age of 21 years.

Although not an essential part of my scheme, I should be disposed to return to a long-service system for the Active Army. It appears to me to possess the greatest advantages for such an Army as we require for foreign, colonial, and Indian service; but whether adopted or not for the rank and file by making our Active Army consist entirely of men not boys, led by officers specially selected not exclusively by literary examination, but as the most efficient and meritorious in the Home Defence Army, I think we might expect that our Active Army, if not the most numerous, would be, in point of material, as it should be, the best in the world.

The Active Army should be recruited from the Home Defence Army by voluntary enlistment so long as that process should be found sufficient; but I would have it supplemented, if necessary, by a conscription. Having determined the number of men required for the Active Army, the Government should be entitled, if sufficient volunteers were not forthcoming, either in times of war or peace, to take from among the men

completing their time of service in the Home Defence Army, by lot, a sufficient number to fill its ranks. But in this case a large number of exemptions should be allowed in the case of men whose services to their country would obviously be of more use in a civil than in a military capacity. The purchase of substitutes or payment to Government of a sufficient sum to enable it to secure the services of an efficient man in place of one drawn, might if judiciously managed, be arranged without necessarily involving the evils which with a partial system of forced service were found to arise from it, but the nature of the safeguards to be adopted must be carefully considered. Such exemption would not relieve any man entirely of his duties to his country in respect of military service, as he would already have served his time in the Home Defence Army.

The question of officers for the Home Defence Army is, of course, a very essential one. My suggestion is that the connection between the Home Defence Army and the Active Army should be to a great extent maintained by interchangeability in the commissioned ranks. So far as the supply of subalterns is concerned, it seems probable that by making a period of commissioned service in the Home Defence Army a necessary preliminary to obtaining a commission in the Active Army, a sufficient number would be obtained. There will also always be under a compulsory system a sufficiently large number of young men able and willing to afford the expense of taking such a position in order to escape service in the ranks. But with respect to the senior ranks, the difficulty of obtaining officers would, I think, be found to be much less than is now the case in our Auxiliary Forces. There are the many men who at present do come forward, men with military tastes who have not been able to get into the Regular Army, or men whose social or business position makes foreign service impossible for them. In addition to these it is likely that by allowing officers of the Active Army to be seconded for service with the Home Army for fixed periods under proper regulations, many officers whose service to the country would be most valuable, and who now for family and other reasons retire early, might be retained.

In connection with this question of officering, I should like, too, to point out what seems to my mind to be at present the real difficulty in obtaining officers for the Volunteers. It is simply this: that you cannot in so many instances induce the right sort of men to believe in the real utility of or necessity for the force. Officers of the right sort are not to be obtained by the offer of £10 to buy clothes with. If you can show how really good and useful work for the State can be done, whether in military or civil matters, there are fortunately still plenty of Englishmen ready to give their services to their country and to ask no further recompense than the public recognition that they are doing their duty. But so long as the Volunteer force remains what it is now, there will always be a strong feeling, most difficult to overcome, that to take commissions in it is a waste of time and money accompanied by a certain sort of swagger and aping of militarism which is not congenial to the majority of English gentlemen. I am one of those who believe that the use of military titles in civil life by Auxiliary Force officers does a good

deal of harm in this way. I do not think that the great majority of the young men of the day prefer loafing and cigarette smoking and looking on at cricket and football, as was suggested lately in the House of Commons, to taking an active part in those games, and so are not to be induced to take an active part in the national defence; this, if the case with any, is not the case with most, the majority are as keen and healthy as ever they were with respect to outdoor sports, but are wont to regard the semi-military career as what they are pleased to call "rot," and the only cure for this is to make that career more interesting by making it genuinely and obviously useful and necessary to the State. This view of the case is borne out by the fact that in those regiments of the Auxiliary Forces which are most efficient and best commanded, and in which consequently most real work is done by the officers, there is not now, and never has been, any great difficulty in getting officers.

For the senior officers of the Home Defence Army I should like to see a much larger infusion of Active Army officers than is the case at present in the Auxiliary Forces. These too might be either seconded or allowed to go on half-pay before being retired from the Service, with the chance of being taken back into the Active Army in case of war or other circumstances arising to make such a course desirable. But I would not exclude the purely Home Defence Army officer from promotion to field-rank or the command of corps. I should make that promotion a special reward for specially good and efficient service, and it should carry with it, I think, Active Army rank, being in fact another entrance into the Active Army of specially selected Home Defence Army officers after ruthlessly weeding out all but the very best.

In considering the very material question of the cost of the Home Defence Army, it is important to remember that any increase in our national expenditure occasioned by it would not properly be chargeable to it alone. If this force became both the nursery and the reserve of the Active Army, and relieved us of the present uncertainty as to the prospects of obtaining recruits for it when needed, by providing a supply of trained men to keep its ranks filled both in peace and war, the expense must be deemed to be an essential part of the general military expenditure of the country, and not merely of that of providing for home defence. Recent experience with respect to the Navy has shown that British citizens are not niggardly in supplying the necessary funds for putting what is rightly regarded as our first and chief line of defence on a satisfactory basis as soon as they are really convinced of the necessity for so doing. What is needed is to prove the necessity for an Army as well as a Navy, and when once this has been thoroughly established no fear need be entertained as to the necessary funds being forthcoming. To establish this conviction is no doubt a hard task, but it is not, I think, a hopeless one. If it were, it would be none the less the duty of those of us who are already convinced not to relax any of their efforts to convert the remainder; and the present time, when there is a general feeling that the most statesmanlike steering will hardly succeed in keeping the ship of State out of the storms of war, seems a fitting one for the renewal of our efforts. Be the cost what it may, a

provident merchant will insure his vessels even more thoroughly when war risks run high than in peace-time. But the cost need not after all be very excessive. The State now gives its citizens free education, and provides against the consequence of destitution in old age. Apart from its natural right to call on all able-bodied men to take part in the defence of the country, there is, it seems, now an additional claim created by the additional State aid given in these respects. More than a quarter of a million of men now freely and voluntarily give their unpaid services to fit themselves for this task, and derive both pleasure and benefit from doing so. We propose to ask another three-quarters of a million to do the same, and if by this scheme compulsory universal service for Home Defence can be given, with little or no interference with the ordinary business or occupation of those giving it, I see no reason why it should be paid service, but suggest that it should be given to the State during a few years of manhood in return for what has been given by the State during boyhood in the shape of education, and for what may be rightfully demanded, if need be, of the State in old age.

The cost of the Active Army remaining what it is, or perhaps being lessened by the possibly diminished charge for recruiting, that for the cavalry and artillery of the Home Defence Army may be taken as about equivalent to the present cost of the Militia, whilst that of the infantry, the force being about four times the strength of the Volunteers, may be assumed to cost four times as much as they now do. An increase of three millions per annum to the Army Estimates would seem to be involved. The public has to be convinced that this expenditure will be worth making. What, therefore, is the result to be expected from it?

Dealing first with those who hold the fleet to be our first, if not our only really necessary armament, I would point this out, that if our foreign foe, whoever he may be, were fully convinced that to land an army in this country would mean its certain annihilation, we should be quite safe against the possibility of invasion whether or not we held command of the channel—that essential point of naval strategy. Our fleets relieved entirely of the necessity for protecting our shores would be left entirely free for the protection of our commerce, and the destruction of our enemy's navy and commerce too. From the point of view alone of naval efficiency in war it seems hard to see how three millions per annum could be better spent.

But there is also another point of view. I said at the outset that I proposed to try to show not only that a system of compulsory service for home defence would produce better military results than a voluntary one, but also that in itself compulsory service would be beneficial to the nation.

I am proposing that the remainder of our male population should share the advantages, as I hold them to be, which we Volunteers have had and are having. Bear with me while I try briefly to call attention to what Volunteering has done. For the State as a whole it has done much. It has convinced foreigners that if we are a nation of shopkeepers, it is of shopkeepers who keep rifles under their counters. It has put almost a

stop to those periodical panics which the knowledge of our impotence to resist invasion used formerly to bring about at frequent intervals. Then by diffusing a small amount perhaps of military knowledge, and causing a considerable number of civilians to take an interest in military matters, it has brought home to the public the necessity for Army reform. It has popularised the Army, while it has helped considerably to do away with the belief, formerly so prevalent, that a soldier was necessarily a vicious, drunken scoundrel, and it has made a fresh link between the Army and the civil population. It has brought to bear fresh thought, skill, and business ability, not merely on military administration but even on drill and tactics, which in the publicly-expressed opinion of the present Commander-in-Chief (referring by-the-bye to our present Chairman) have been greatly instrumental in bringing about improvements even in these technical departments.

But the greatest benefit that the Volunteer movement has conferred on the country has been moral and physical—on the race and on the individual; slight and partial as in many cases the military training given has been, it has brought with it, health, strength, manliness, self-respect, good-fellowship, habits of obedience, *esprit de corps*. Those of us who have been privileged to see in so many instances in the young men under our command the changes which a year or two of amateur soldiering have wrought; those heads of offices and business establishments who have seen the good effects produced on their *employés*, even those who without any special knowledge in individual cases have witnessed the general improvement in physique, conduct, and bearing of our male population, should I think unite in wishing that these enormous advantages should be more thoroughly and completely developed, and more generally diffused, till by universal training in the greatest of all a citizen's duties we not merely provide once for all definitely for our national home defence, but also a fitting completion, both mental and physical, for our system of national education.

In urging then a scheme which will supersede Volunteering, I do not wish to be thought for one moment to turn my back on what for so many years of service has been to me a source of the highest pleasure, and I may say pride. Far be it from me to "despise the day of small things"—but "day of small things" after all it has been in comparison to that which may come.

I often wonder whether those who are in the habit of congratulating themselves and us on the fact that the Volunteer Force stands between the nation and conscription ever think of the enormous responsibility involved in being in such a situation. If we, as Volunteers, could really think that the force as at present constituted, was a sufficient provision for the national safety, we should be only too proud to think that our unpaid services were of such vital importance in maintaining the safety, honour, and welfare of our Sovereign and her dominions. But can any one of us who really knows what the force is at the present moment—vastly different as it is to what it was at its formation, superior as it is in most respects to what it was a quarter of a century ago—really satisfy

himself that it is a sufficient force for Home Defence? If not, in standing between the nation and compulsory service, we are surely preventing it from obtaining what we are erroneously supposed to give it; and however much we may appreciate what Volunteering has done, we had better see it swept away to-morrow and a new system organised than that its existence should lead to a delusive false confidence as to our national safety.

It is, I think, the duty of everyone responsible in any degree, however small, for home defence, and the duty of all those citizens who have acquired any knowledge, however slight, of military matters, to lose no opportunity of dispelling illusions and pointing out defects in the hope that a remedy may be found. This must be my excuse for bringing forward, however inadequately, this great subject. Safety is in these days only for "the strong man armed." Are we satisfied as to our strength and our armour? If not, are we to risk our very existence for the sake of an idea and to insist on voluntarism at all costs with respect to the most vital of all interests—the national safety—whilst experience is teaching us the advisability for compulsion in so many matters of less public concern, and to wait for some great national disaster to prove to us the necessity for the measures to which prudence and common sense should prompt us now while yet there is time?

Colonel J. E. GOODWYN, *p.s.c.* (late East Lancashire Regiment):—Sir, it is twenty-six years ago since I had the pleasure of serving with you in the manoeuvres of 1872, and it is with the greatest pleasure that I listened to my old comrade Colonel Boyes' lecture to-day. I happened to be a lieutenant in the 30th Regiment when he was the right-hand man of the London Rifle Brigade, and a pretty big man he was too; but he and I have also taken part in some very instructive war games in the Westminster Hall. It was in the Fenian rising in Canada of 1866 that I had my first dealing with the Volunteers, when a battalion of 200 backwoodsmen from Ontario arrived at Cornwall on the St. Lawrence. They had never been together before, but after six weeks they were a perfect little corps; they could all of them handle their axes well and they could all handle their rifles, and after that short time—six weeks—I could not see my dear old battalion, Her Majesty's Treble X's, pitch their tents or do camp work smarter than those fellows. They turned out most admirably. With regard to parade it was different; they all wore beards and long hair. They were in a sense untidy-looking, but they were very serviceable and smart and could do their work well. Another experience of Volunteers was in 1872, when you, Sir, I recollect, had a Volunteer battalion of six companies. I am speaking now from memory, I have not been coached up by anybody, but if I recollect rightly, 200 of them came from Edinburgh, 200 from Liverpool, and 200 from the London Rifle Brigade, and formed a provisional battalion, and a very jovial time we had. I recollect how uncommonly smartly you all did your work after a month of it. The fact was this, all your fellows were educated men. I am only an ordinary foot-soldier, and we have to get our men wherever we can; and right good fellows they are too; but it takes time to educate them in a military sense. Now in the Volunteers, where you get as good brains as anywhere in the country, they will tackle their work very much more quickly, and what is more they do so; I have seen it and I can swear to it. A home defence of a million! Yes. But how is that million going to be composed? The men are there, and you cannot have better; but a million infantry is absolutely useless against one hundred thousand Germans or Frenchmen, or whomsoever you like to name, who have their

proportion of cavalry and artillery. We must have that proportion, and I should like to see our Volunteers organised in such a way that you have got the proper proportion; that there should be army corps of Volunteers, and that they should have their proportion of cavalry and artillery, because you must have it if you are going to do any work against foreign troops. It is all nonsense to say we cannot have it in England, and the authorities know it as well as I do. We must have our proportion. As regards the number of men in London to defend it, why there are plenty, and excellent men too. The thing is this, that we must, as far as London is concerned, have our proper proportions of cavalry and artillery. We have got heaps of good infantry. As regards the officers, that is our difficulty with the Volunteers, and we all know it, and the reason is this: they have not got experience; but that comes by time. And what is more, England is not going to be conquered in three months, or six months for the matter of that. We all know the American officers during the great Civil War of 1860 and 1861 came to the front after a time, and we can do it in just the same way. It is only a question of experience and time, and that we shall have. Our fleet cannot be knocked into a cocked hat in two or three months, or even five or six months, and we shall have plenty of time to train officers sufficiently for what we want for home defence. The powers that be—and may God grant them wisdom, for they certainly have not got it already—should arrange that we have a proper food supply in England. There are plenty of experts writing to the newspapers saying that we ought to get a good food supply in England, but whether the authorities will do anything in the matter is a different thing. With regard to our Active Army, we may have them employed altogether abroad, and then we must depend upon the Militia and Volunteers. That is an absolute necessity. We cannot do without it, and therefore the best thing is for us at home to use every influence, our old soldiers, Members of Parliament, and everybody, to force the Treasury—which we know is at the bottom of every mischief in this country—into providing adequate means for supplying the home army with what we should have, namely, the proper distribution of the three arms, and one thing more, transport. We have a superb organisation at home as regards our railways—the system is perfect. There is no country on the Continent which can beat us as regards the way our railways are organised—it is simply magnificent; and in time of war, as a matter of course, all the civilian traffic would have to cease, and the military requirements would have to stand first, and then it could be adequately arranged. I have to apologise to you, Sir, for having taken up so much time, but I am such an old friend and admirer of the Volunteers that I hope you will excuse me.

Colonel A. M. BROOKFIELD, M.P. (1st Cinque Ports Volunteers):—I cannot help expressing my opinion that the lecturer, in a very modest manner, has put before us some of the most vital questions of the day with regard to national defence. I was struck very much by the extreme simplicity of his scheme. He chooses to consider the whole force as one army, and I believe that is, theoretically, the right way to look at it. For practical purposes, on the other hand, I believe it will always be necessary to have a sub-division, that is, an army specially organised for foreign and colonial work, with another for home defence, or home service rather; and although it will be very desirable, and I believe the authorities recognise it, to arrange for a great deal of elasticity in the matter of exchange, it would be undesirable or impracticable to arrange for absolute interchangeability throughout the force. We must have practically a Regular Army and a Reserve Army of some kind. The lecturer reminds us that this is a great question of the hour, and that everybody is considering it, but he spoke rather despondently about the chances of compulsory service, of general service being admitted as a possibility. I think one way of making it possible is not to speak of it as "compulsory" service. It requires wrapping up in a more attractive label, I think. But I have learned not to be

much afraid of phrases of this kind, of hearing that a thing is "impossible," or that we shall "never live to see it," because facts brush aside many difficulties of that sort. There are two things which I think will brush aside the alleged impossibility of universal service. One is, if, in vulgar parlance, we get a "good licking," which many people regard as highly possible. We have done our best to get it in several parts of the world. Another means would be the definite fear and possibility of getting a good licking, and let us hope that this will be the alternative. Without trenching upon matters of politics, I think those who read the China Blue-book that has recently been issued will see one obvious thing that is very unwelcome to English eyes—an obvious new fear—fear on the part of this country of the military power of other countries. That is new, and it is exceedingly distasteful; and what is more, I believe that with the vast commercial and other interests that we have all over the world, it is impracticable, and it will not be tolerated that we should be afraid of anybody. We should not be afraid of Russia, Germany, France, or anybody else, and to put ourselves in that position we must ultimately have a very much larger Army than we have at the present moment. Colonel Boyes referred in one part of his lecture to the efforts the authorities were making to increase the numbers of the Army. Well that is so, and we should let those efforts, I think, have a fair trial. I believe, however, and I speak with some knowledge of a certain part of the subject, that these attempts will in the main fail. I do not believe they will get their 25,000 men. There are several signs that they will not get them, and there are some signs that they really do not seriously mean to get them. One sign is the constant passage and re-passage across the stage of the men of the Reserve. Now if they are only going to harp on this Reserve and call that the new 25,000 men, it is plain to any schoolboy that not a single extra man is really gained for the Army; and you may depend upon it that there are men in Parliament at the present moment who will not be imposed upon in this matter, and who will take care that the country is duly informed of any tricks with figures with regard to the increased strength of the Army. I believe at the present moment the main substantial increase that has taken place in connection with the great Army reforms announced in the recess has amounted to little more than a certain manipulation of the men of the Reserve. To show how mischievous this has been, it is a matter of notoriety that many men have been urged by their commanding officers when they have offered to re-engage, not to do so, but to go first into the Reserve, and then come back to the colours after a brief holiday, and thus secure the bounty. Playing tricks of that sort with the Reserve is not the way to make a substantial increase in the Army. Now what I imagine the lecturer, and every sincere military reformer, desires to do is to get at that vast untapped body of the civil population who ought to give some form of military service to the State, but at present escape scot-free, and who, I think, take very little interest in military matters at all. The lecturer frankly told you that he would not hesitate to supersede the present Volunteers. I may speak also as a commanding officer of Volunteers who holds, I think, identical views on so many points which the lecturer has dealt with, including even the use of military rank by Volunteer officers in time of peace. I agree with him entirely, but I think the public ought to understand when we apparently occupy the invidious position of attacking the Force to which we belong, that we do not for a moment cast any slight on the individuals who compose it. We wish to keep every individual who is now a Volunteer; but while we wish to keep him, we also desire to make him more of a soldier than he is at present. I do not know that the word "Volunteer" itself is a particularly good one. I think it is a bad word. I think "Volunteer Rifle Corps" savours very strongly of the old 1859 spirit—a sort of a patriotic *levée en masse*, which is not what is most suitable for the purposes of the present day, when we want men to be intelligent machines who can be converted into brigades and divisions and army corps, and moved about with all their equipment

for great national purposes. I was struck by a remark that the gallant gentleman who last addressed you made in bringing out the old superstition—if I may be permitted to say so—that Volunteers are still an exceptionally well-educated body of men. It entirely depends upon the locality with which you are dealing. You may find one battalion where they are all well educated, but you may find another where a great many of them are unable to read or write; and the ones who cannot read or write, or who are at all events not men of superior education, are at present, I believe, seriously tapping the Militia, and even, to some extent, the Regular Army. I could mention, in at least one or two districts, the case of several hundreds of Volunteers who according to their civil status and their physique a reformer would desire to see in what we at present call the Militia. That is, they should not be used as only amateurs. The lecturer made a passing reference to some strictures that I ventured to make in the House of Commons recently about the cigarette-smoking and loafing young men. I am not going to apologise to them—I think they are rather worse than I ventured to paint them. But what I endeavoured to say was, what the lecturer has said in much better language, that there is a vast number of educated young men who ought to have commissions in the Militia, or in the force we now call the Volunteers, who at present escape scot-free and do nothing, who, as he aptly said, regard the whole thing as “rot.” They ought to be attracted somehow, and either persuaded or dragged into Her Majesty’s Service. The lecturer spoke of our old friend the ballot, and I sincerely believe that the Government will not hesitate to put the ballot in force if they get into the straits that I venture to think they will be in by this time next year, whether they have had a war in the meantime or not. I think we must remember that the ballot would really be a simpler and less clumsy contrivance now than it used to be in the old days, because we have greatly improved or “democratised” (which you may not think an improvement), and we have greatly altered the system of county government. It would not be a matter of the lord-lieutenant scratching a few words with a pen to put the ballot for the Militia into force; it would be a matter that would be subjected to popular discussion by the county councils, and the county councils would very likely be called upon to put most of the machinery in motion. It would be brought in in the most elastic manner at first, with most liberal allowances for circumstances, and it would probably be within the power of the county councils to make a great many exemptions, or, even if they prefer it, to pay for substitutes. though, personally, I should be strongly against substitutes if we are ever to have a thorough and effective change of system. I must apologise for obtruding these few observations. I can only say that I have the greatest sympathy with the views expressed by the lecturer, and that I both wish and believe that many of them may be generally adopted in the course of the next few years.

Colonel H. W. HUMMEL, 15th Middlesex Volunteers (Customs and Docks):— I thoroughly agree with the observations of my friend Colonel Boyes. To my mind it is extraordinary that the necessity for such a lecture should ever have arisen. The apathy of the British public in reference to such a very essential point as the training of every man in this country in military matters is so very remarkable that I cannot at all understand why it is not brought more prominently forward, and especially before Parliament. But what I wanted to say more particularly is that I am surprised that the lecturer should have formed such a pessimistic opinion of the value of his own Service as a proper weapon for the defence of this country. He and I have served concurrently for a great number of years, and have had almost the same experiences, and I have formed an exactly opposite opinion to his of the value of the Volunteer Service. I will not go into details, but I do think that with the necessary additional training which must precede any actual active service, we should be as efficient as would be necessary for the purpose of defence. I might also add that I cannot see that the scheme, admirable as it is, which the lecturer proposes for

compulsory service, will produce a better-trained class of men than we have at present in the Volunteers. If the Americans are going to fight, perhaps we shall be able to form an opinion as to the value of Volunteers pure and simple on active service, and that may give us a better idea of the value of our own Service should it be ever tried in war, which happily is a test that has never been applied to it.

Colonel H. BETHUNE PATTON, C.B. (Commanding the Severn Volunteer Brigade):—At a moment such as this when two strong Powers are engaged in war, and when there is a great feeling of unrest amongst the nations of the world, I think that the subject of the lecture which has been brought before us by Colonel Boyes, on "Compulsory Service for Home Defence," must be good in concentrating public opinion upon one of the most momentous subjects of the hour. As to how the nation will take it, provided the Government is brave enough to attempt it, there may be doubts. Personally, I believe that the educated sense of the nation is such that it will not cold-shoulder the movement in the way that many anticipate. I believe there is an amount of patriotism and sound sense in the English nation, and that if they once take it into their heads that it is necessary for the protection of their country, their trade, and their Empire, there will be no difficulty in having compulsory service for home defence. The reason that I feel very strongly on this subject of compulsory service for home defence is, that we are told, on the authority of the Commander-in-Chief, that we have two army corps ready, as soon as the ships can be found, to be sent wherever their services may be required. And, furthermore, we are given to understand that there are three army corps for home defence—the third army corps being composed, I believe, principally of Militia. Now I think it would be a very vast mistake for this country to rely for home defence upon the service of those three army corps, because I think with the enormous power of Continental nations we might easily find ourselves in a very tight place. I think we might require not only the two army corps we have ready, but the last man of those three army corps to supplement them in order to enable us to hold our own. And supposing that matters have arrived at that pass in which those army corps which were destined for home defence are sent abroad, then it appears to me that it is of the utmost consequence to this nation that the remainder of its home defensive force should be placed in a thorough state of organisation as a Home Army, and I think that cannot be done as it should be done to meet any emergency which might occur, unless compulsory service is introduced. Now with regard to compulsory service, I am not prepared to follow the lecturer in his drastic reform; I have too much regard for all Auxiliary Forces. I have served twenty years in the Volunteers, and I have learned to respect and to admire that force, and to believe that whatever shortcomings there may be in it, they are not either the fault of the officers or the men. The employers of labour throw difficulties in our way. I do not mean to say that they are not patriotic, and on many occasions do all they can to help us; but there is this to be said, that the civil trade of the country must be carried on, and you must not adopt any such violent reform as will paralyse and bring to a standstill the working industries of the country. Now I think that a ballot for the Militia if introduced would not interfere very seriously with matters as they at present exist, because we can get the men that we now get both in the Militia and in the Volunteers, and the ballot for the Militia will enable the Government to raise whatever number of Militia that might be required, and also as sure as the Militia Ballot without substitute is introduced officers and men would flock to the Yeomanry and Volunteers in numbers, in order to avoid coming under the Ballot Act for the Militia. The consequence of that would be, that instead of the Volunteers as now being only partially trained, we should be enabled at once to increase the number of drills and to insist that every man went into our camps. At the present moment I know in my own brigade I always consider myself very fortunate if I have more than about 55 to 60 per cent. in camp. That would then be altered. We should get the whole of the men in camp, and if

they could not go into camp we should get rid of them and then they would be subject to the ballot for the Militia. With regard to the able speech, which I listened to with a vast deal of interest, of the gallant Colonel on my left, I *most certainly do not agree with him on one point*, and that is, he seemed to infer that the Volunteer Force was a drag upon the recruiting of the Militia, and possibly of the Regular Army. *I think it is nothing of the kind.* I know from my experience of living in the country amidst the Volunteers and the Militia and other forces, and knowing the circumstances of the men that serve under my command, that those men who serve in the Volunteer Force are in permanent employ, and I am satisfied that they would lose their situations if they joined the Militia and were compelled on joining to go to a depôt for two months, and afterwards for one month in camp annually. Therefore, I think that any step taken to dislocate the magnificent mechanism of our Militia, Yeomanry, and Volunteer Force would be a most fatal step in the interests of this country. There is room enough for all; there is room enough for the Regular Army. We want many more men than we have got, and I only hope that we may get them. We also want more Militia, we want more Yeomanry, and we want more Volunteers; and we want in addition that the Colonies throughout our Empire should adopt a somewhat similar system to our own of Militia and Volunteers, so that in the case of a great national emergency our magnificent Colonies may be able to send their quota to the Imperial Army for Imperial purposes. I maintain that if men could be found with brains sufficient to organise such a force, that Great Britain and all our Colonies are patriotic enough to respond, and I believe that we should be able to produce an Army as well as a Navy second to none in the world. I am sick of hearing of the wonders which are performed by the Armies of other nations. I admire and respect Continental Armies as much as any man, but I respect the British Army a great deal more, and I do hope that we may within a short time be enabled to face any combination of foreign Powers which may be brought against us, and that the Union Jack—the emblem of our civilisation, trade, and national progress—will float triumphantly over all parts of our dominions, and that we shall be able to hold our own against all comers. I apologise for having taken up so much of your time, but I hope and trust that nothing will be done to break up either the Militia, Yeomanry, or Volunteers.

Lieut.-Colonel Lord RAGLAN, Royal Monmouthshire R.E. (Militia):—I did not intend to speak this afternoon, but no Militia officer has said anything yet, and I should like to say a few words, not however of criticism of the lecture, which I think is a most excellent one. There is only one thing which I would venture to find fault with, namely, the expression “for home defence.” I myself believe that you cannot lay down a line, in these days especially, and say, “This is home defence, and if you cross this line it is something else.” I believe that the time has come when every man who wears the Queen’s livery throughout the Empire should be a soldier, and that every soldier should be liable to fight wherever his services are required. The days are gone when a man said, “I will defend Trafalgar Square with my life, but I will not march down and defend Whitehall!” I consider that if we had a million armed men in this country and had no more men to send abroad than now, our position in the world would be just as feeble as it is now, of which we have had an object-lesson in China during the last few weeks. There is one other word which I will say to confirm Colonel Brookfield in what he said about the Volunteers having to a certain extent interfered with the enlistment for the Militia. As far as my own particular county is concerned, I know that the men who thirty years ago filled the ranks of the Militia are now in the ranks of the Volunteers, and that the men who thirty years ago were in the ranks of the Volunteers are now in nothing at all. In little county towns the small tradesmen and that class of men who thirty years ago were most enthusiastic supporters of the Volunteer Force have left it. I have tried very hard and have made many enquiries to find out whether that is

cause or effect, whether the working-men coming into the Volunteers has driven out the middle classes, or whether the disappearance of the middle classes created a void which the working classes have filled. That is a question which I have never yet had satisfactorily answered. There is a point on which I must join issue with Colonel Brookfield, namely, about the cigarette-smoking youths. I do not know where this large class of young men is who are doing nothing. I do not see them, I do not know them. If any one will write down the names of young men whom he knows between the ages of 19 and 25 who are doing nothing, and who are not in the Militia, the Yeomanry, or the Volunteers, he will find that there are very few of them indeed.

Colonel A. M. BROOKFIELD:—May I make an explanation? I say that the fact that they exist is proved by the immense number of vacant commissions.

Lieut.-Colonel LORD RAGLAN:—I say that the class of men is not in existence to fill them. Nowadays there are very few young men who are not either preparing for or have entered into some profession, and they have not got time to devote to soldiering. Commissions in the Militia or the Volunteers are not made sufficiently attractive to young men to induce them to give up all other things. I have no personal experience of the Volunteers, but I do know something about the Militia, and I say this: you say to a young man, "You must give up hunting and shooting and everything else, and the only single holiday you have in the year you must devote to soldiering." I know the Chairman does not think the same as I do, because I remember an article of his in which he was very much down upon the gilded youth. But I do not know where these idle youths are—perhaps there are more in Edinburgh than there are in London. Turning again to the lecture, I do not know whether under this scheme the proposed annual training will be sufficient; but there is one point, I think, with regard to compulsory service which a great many people are apt to overlook, namely, that as regards the working classes a very large number of the younger men are not in regular work. There are many trades which do not employ men more than part of the year, such as the whole of the trades connected with building; those men could very easily give a month or two months a year to soldiering in some shape or form. There are many other trades, such as mining, dock labouring, to say nothing of the great trade of agriculture, in which men are to all intents and purposes casual labourers. By this scheme the men will only receive ten days' training annually, which I think could be very easily increased without inconvenience to either employers or employed.

Lieut.-Colonel E. J. A. BALFOUR, 7th Middlesex V.R.C. (London Scottish):—I am sorry I was not here during the reading of the paper, but I have read it through, and I venture to contribute two or three very short remarks to this discussion. I think that all questions of compulsory service, and in fact all questions of enlistment, commence by our realising absolutely to the full exactly how many men are required. I do not think that it can be denied that that is the first consideration. But we have lately had an authoritative statement from the Commander-in-Chief to the effect that the number of Volunteers on their present establishment is sufficient for the purpose for which they are required. Whether their quality is good enough, and whether they are a fighting body up to the mark which he would expect in order to be able to use them against an invader, is another point. But numerically he has stated that he considers them to be sufficient. If that be so, it is quite clear that any form of compulsory service which involves a very much larger number being trained to military life is in the nature of education and not warlike requirements. I therefore venture to ask whether that education could not be obtained by cheaper methods than by having a vast Home Defence Army, considering all the expenditure of its organisation and command. Could not the same results of education be obtained by simpler methods in connection with the training of boys and young

men at the schools and universities? My interest in the advantages which the lecturer has dwelt upon with such ability with regard to conscription and the two years' training of the German Army is undiminished. But I think those advantages might to some extent, at any rate, be obtained in the way I have suggested without enormous expense to the country, and we should thus get a more mobile and more completely organised force for home defence, when required, than would be possible under his scheme.

Colonel W. J. ALT, 22nd Middlesex V.R.C. (Central London Rangers):—I think we are very much indebted to the lecturer for having the courage to introduce this subject for discussion. I think there was no necessity for him to open his lecture with the very modest and deprecating remarks which he has made. I had the privilege of reading a paper two years ago in this hall in which I touched upon the same subject, and upon which a certain amount of cold water was thrown. I trust there will be no cold water thrown here or hereafter upon this paper, because I consider that any officer possessing the knowledge of the question which Lieut.-Colonel Boyes does and who has the courage to bring the matter forward, deserves the thanks not only of every member of the military Services, but of the public in general. The points which he has brought out are perfectly clear. The question is, whether the military organisation of the country as at present arranged is likely to be sufficient for our Imperial defence. I think we are coming day by day and more and more to the conclusion that it is not. With regard to the efforts which are now being made to increase the strength of our boy army—I cannot call it an army of men, because it is admitted that it is not—I venture to think, and I have no doubt many will agree with me, that the measures adopted will not produce the required increase to the military force of the country. Colonel Boyes very properly says that the voluntary system, which forms the basis of the whole structure of our Army, has broken down. I think there is no question of that. He goes on to say that officers of the right sort are not to be obtained for the Volunteer Service by the offer of £10 with which to buy clothes. In that he knows I am perfectly in accord with him. It has not helped me to find a single officer. I believe the small increase of officers which has taken place during the past year has been due to entirely other causes. Then Colonel Boyes further makes a most pertinent remark to this effect:—"Can any one of us who really knows what the Force is at the present moment—vastly different as it is to what it was at its formation, superior as it is in most respects to what it was a quarter of a century ago—really satisfy himself that it is a sufficient force for Home Defence? If not, in standing between the nation and compulsory service, we are surely preventing it from obtaining what we are erroneously supposed to give it." Proud as I am of having the privilege of serving in that force, I believe we are standing in the way of a proper military weapon for the defence of our Imperial interests. I believe entirely in what has fallen from some speakers that it can be made a weapon that should take its place in line for the defence of the Empire. I cannot agree with Colonel Balfour that it is a pure matter of education, and that any other means than that of compulsion will produce the result we require, that is, a weapon for the defence of our Imperial interests of the highest temper and fit and organised in every way to meet the exigencies which may arise, and which I believe will arise rather sooner than later.

Lieut.-Colonel BALFOUR :—I did not say without compulsion. I said I thought it might be brought about by other means.

Colonel ALT :—I venture to think, Sir, that the time has come when everyone should give expression courageously and boldly to their views on this important question. I do not believe at all that the mass of the public are not in favour of some form of compulsory service. One and three-quarter millions of men have passed through the ranks of the Volunteer Force since it was established nearly

forty years ago, and there are now a quarter of a million of men serving in it. These men have certainly shown that they are in favour of some sort of compulsory service, because they have given their time and intelligence to the defence of their country. The lecturer very properly points out many other ways in which compulsion is brought to bear upon us, and I do not believe if any Government had the courage to put it before the people that they would hesitate in accepting such a form of compulsory service as would be brought about by the simple exercise of the law of the land—namely, ballot for the Militia. So far from it being more costly, I think there is clear evidence that such a form of compulsion would be better for the tax-payer than the present, which is really no system whatever. As to the indirect cost to the nation, it is sometimes asserted that if not directly a burden upon the country, it is an indirect tax, through the conscript's labour being taken away from the industrial work. I have taken a great deal of trouble to study this out. I cannot inflict statistics upon the meeting, but I find that in those countries which have conscription, so far from suffering, they are going ahead of us in industrial and commercial development, and are competing with us successfully all over the world. This is not only the case in Europe, but even with a young country like Japan. The enormous commercial strides which Japan has made in the last twenty-five years is really phenomenal, and they have been taken since they established a system of compulsory service twenty-five years ago. I need not touch upon the benefits of the system to the manhood of a country such as we see in Germany and elsewhere. The lecturer has properly touched upon the improvement in the physical condition of men in general in this country from the Volunteer system. Nobody can observe the general smartness of the men one meets in the streets now, compared with what they used to be twenty-five or thirty years ago, without realising the great educational benefit which has been derived from a military and educational point of view by Volunteer training. I find that we obtain annually about 30,000 recruits for the Regular Army, about 35,000 for the Militia, and 40,000 for the Volunteer Force, totalling up to over 100,000. The lecturer is right with regard to what he says about the number of men annually attaining the age of eighteen; but instead of taking 200,000 or 300,000 of them the first year, if you make a levy of the same number only as those who now voluntarily come forward, viz., 100,000, you would in ten years, on the principle of three years' active service and seven years in a first reserve, have a body of one million of men, and so have a substantial Reserve which could be called upon without, as is done now, "robbing Peter to pay Paul" by calling upon the Reserves to make up the deficiency in the Active Army. Of course, by doubling the annual levy you would double the strength at once of the Active Army and have a total in ten years of two millions instead of one million. The time has come when everybody with the courage of their opinions should express them as boldly as they can, and so help to educate public opinion to the fact that compulsory service in some form is necessary, that the best form is according to the law of the land to ballot, and that such a system would be both directly and indirectly less costly to the country than the present one.

Colonel H. H. A. STEWART (Retired Pay, late Donegal Artillery Militia):—There are two or three points that I wish to speak to—strictly on the subject of the lecture. I think two or three of the speakers have been a little discursive. The modesty of the lecturer has been spoken of once or twice, and I must testify to it also, and actually in the very title of his lecture. He styles it "Compulsory Service for Home Defence," but if we turn to page 892 of the lecture I think we shall find it is not confined to home defence, because he says there:—"The Active Army should be recruited entirely from the Home Defence Army by voluntary enlistment so long as that process should be found sufficient; but I would have it supplemented, if necessary, by a conscription." That, to my mind, or to anyone, I think, who runs as he

reads even, means conscription all round. I am all the more diffident in addressing the audience here to-day because I feel I am in a decided minority. Most of those present, I think, are altogether in favour of the ballot or conscription in one form or another. [Hear, hear.] Very well, there are a good many "hear, hears," but the flag that has braved the battle and the breeze for a thousand years, or at any rate for a couple of centuries, has been held aloft by the voluntary system. [No.] It has throughout this century at any rate. [No.] I wish to say, as I have said before in this theatre, that in my humble opinion the voluntary system has never had a fair chance of success in this country. The lecturer says it has broken down. Why has it broken down? I submit that no proper inducements have been given to young men of the present day, educated as they are, to join the ranks of the Army. A distinguished officer not long ago wrote to the Press showing that the inducements given for recruits now to enter the Army and bring the establishment up to an increase of 25,000 men, actually amounts to a cost to the Government of an additional half-penny per day per man. Is that an inducement for men to come forward in sufficient numbers to raise the 25,000 men required? The Crimea is often cited as an instance in which the voluntary system broke down, but I respectfully submit that the voluntary system did not break down in the Crimea, but it was the way in which it was administered. The men were starved, they were not clothed properly, and were not housed properly; they died from ill-treatment and neglect by the Government. Under the voluntary system, on the authority of the present Commander-in-Chief, we have two army corps ready to go anywhere long before the ships can be found for them. They would amount to 70,000 men. We have never in our history been able to put 50,000 men on the Continent of Europe. Now under the voluntary system, we are able to send 70,000 men, and I submit we shall be able to keep them up to that number, having a reserve of 110,000 men.¹

General J. H. DUNNE:—As one of the many friends of Colonel Boyes, who I believe served under me once or twice in the Volunteers, I have been very glad to hear him and other Volunteer officers. I would like Colonel Boyes, when he is replying, to let us know more clearly than I can make out whether he for one moment means that if 300,000 men a year are to be compulsorily enlisted for three years so as to make up a million at the end of three years, this valuable—and I say it most conscientiously—this valuable Volunteer Force is to be done away with; the men who have had experience for years in the Volunteer Force, are you going to abolish them when you bring in this compulsory service of boys of from 18 to 21? The loss of those men is a great point to be considered, for, as Colonel Alt said, they form an enormous force of well-trained soldiers—because they are well-trained soldiers, most of the old Volunteers now; I speak as a Regular soldier of forty-six years' service—they served with me very often, and as far as the general drill and discipline of the good regiments of Volunteers there is very little to be wanted, and surely to abolish all those men under this scheme would be a terrible loss of vitality to the country. Then again, the whole country would be a sort of armed camp whilst these 300,000 men were being drilled every year, and I am afraid there would be enormous difficulties in putting them under the mill of drill, while enlisting would have to be kept up exactly the same for our foreign army. Three-fourths of our Army is a foreign army. Whatever may be said about the boys, which I to a certain extent agree with, I will say that when in Egypt the other day I saw the battalions that fought at Atbara, and I also know the battalions under my friend Sir George White in India, and many of them are as fine as ever they were in former days, and I speak as one who fought in the days of the Crimea and the old Service. Probably we shall want more men, but I do not think Colonel Bethune Patton and others who spoke have given sufficient attention to the propositions of Mr. Brodrick for Lord Lansdowne, the

¹ Army Reserve, say 80,000; Militia Reserve, say 30,000.—H. H. A. S.

War Minister. Mr. Brodrick brought these forward in a most clear and able manner, and no Under-Secretary of State has in my lifetime, to my knowledge, shown such deep anxiety to do whatever he possibly could to improve the recruiting of the Army. I cannot help thinking that Colonel Boyes has gone a great deal too far for the present: that it must only be in an extreme case that we should have recourse to such an extraordinarily strong measure as taking those 300,000 men per annum. But, on the other hand, I entirely and completely agree that if we are driven to it, and if unfortunately it turns out that the propositions and plans of this present year do not reap the reward which I must say I think they deserve through Mr. Brodrick's exertions, I am entirely in favour of those speakers who said that the first thing to have recourse to is the Ballot for the Militia. I believe at the same time that our countrymen—though I am an Irishman I speak for the three kingdoms—amongst the lower orders, among the working classes of the country, although I am sorry and grieved to say it, are not so patriotic as people talk about. They will not serve unless they are well paid for it; there is no enthusiasm to rush to the Colours, and the only thing in the end may be compulsory service. I go to where my old regiment was raised—in Wiltshire. Men prefer to work like horses for four days in the week, even as slaves down in the mines, so long as they can have the liberty of getting drunk for the other three days and doing what they like. The fact of it is, the working classes have got a socialistic sort of independence, so that they hate the drill and discipline of the Line. They will go into the Militia for a month, or into the Volunteers for temporary service, but they will not have their names called on the roll call at half-past nine and sleep in barracks every day in the week all the year round. I know from all the people with whom I have been in contact that that is one of the great objections to soldiering. Men who are fit to work will work anywhere rather than in the Army. I think before we come to Colonel Boyes's proposition, we had better try the Ballot for the Militia. Why should not we be as patriotic as other countries? I was last year in Switzerland, where their only object in having an Army is to defend the neutrality of Switzerland. They do not want either the French to come in on the one side to creep round the corner, or the Germans on the other. The Swiss, without the slightest remonstrance, in the best of tempers, from the highest man in the land down to the lowest, have accepted the system of compulsory service, and owing to this they can put 120,000 men in the field, and can bring up 100,000 men more on the Reserve, at a cost of only one million per annum. I was with a lady who drove down in her own carriage to see her two sons who had been out with the Swiss Army. This wealthy woman was proud and pleased to pick out these two boys, after a long field day, and feed them alongside her carriage, though they were covered with mud—lads of about 18 or 19, who had been serving for the six weeks or two months that they have to do every third year. For us, we have seen nothing of this sort, and I must say I feel ashamed as an Irishman of the want of go and enthusiasm among us. I hope we shall never have to come to what Colonel Boyes suggested, but I am sure everybody is grateful to him for the way in which he has brought forward the subject.

Colonel H. C. CHOLMONDELEY (London Rifle Brigade):—The advantages of compulsory service of some sort have been for some time as apparent to myself as they have to a very large number of other officers, but I do not think the arguments in favour of it have ever been more forcibly or plainly put than in the paper we have heard read this afternoon. Therefore I need hardly say that I concur cordially with the lecturer. I question, however, whether the manner suggested by him of applying this law would be quite the easiest that could be devised. There are some 300,000 young men, he states, who reach the age of 18 each year. These will be found roughly divided into three classes: those who have the prospect of earning their livelihood in permanent employ, such as clerks and so on; those who look to making their living by fluctuating employment, such as dock labourers, costermongers, etc. ;

and those who have no prospect of earning any livelihood at all. Colonel Boyes's method of applying compulsory service in the same manner to all these would, I think, be found to fall hardly upon the two latter classes, if not impossible of application. Now, our present system of home service, viz., the Regulars, Militia, and Volunteers, seems to adjust itself conveniently to each of these three classes. Those who are in permanent employ find the Volunteers the most convenient way in which they can give their service; those in fluctuating employment find the Militia suits them best; whilst those who have no employment at all, or prospect of it, find that the Regular Army suits them best. Therefore it appears to me, instead of all being subjected to the same type of service, as suggested by the lecturer, some extension of our present system might meet the case with less disturbance to trade. For instance, I would suggest that every young man on attaining the age of 18 years should be given the choice of which Service he would like to join. Let him join the Regulars, Militia, the Volunteers, or a re-organised Yeomanry, whichever suited him best, but one or the other he must join. In that way the various Services would not clash with each other, there would be the least possible hardship, and the degree of efficiency of each branch would no longer be limited as now, since service would be compulsory. Upon the question of officers, the lecturer speaks about the great desirability of having suitable commanding officers in Volunteer regiments. Of course, the whole efficiency of the Volunteers is measured first of all by the time the employers can give to their men to practise, and secondly by the instruction which the officers are able to give. The necessity of good commanding officers is paramount. I would offer as a suggestion that majors to a sufficient number should be appointed from the Line battalions to command the Territorial Auxiliary battalions, the future military advancement of these officers being made dependent upon the degree of efficiency attained by the Auxiliary battalions. As an alternative, I would suggest that colonels who had commanded Line battalions with conspicuous success should be permitted to command Auxiliary battalions on full pay for a limited period of years.

Major C. E. D. TELFER-SMOLLETT (3rd Bn. South Staffordshire Regiment):—A question was raised I think by Colonel Brookfield as to what effect compulsory service would have in filling the vacancies which now exist in the commissioned ranks. It was challenged afterwards by Lord Raglan, who doubted whether there really were so many idle young men who pass their time smoking cigarettes, and who would be available if they were made to join. I speak with a rather peculiar experience, because when adjutant of a corps of Volunteers in the north of England, I at the same time belonged to the Northern Circuit, where there were 350 men, many of them quite young. I think the Chairman will bear me out when I say that the average young sucking barrister is not overworked. Again and again I asked those young fellows to accept commissions in the Volunteers. I am quite certain their private work was not of such a character that they could not afford the time. I think at least thirty times I got the invariable reply that it was all "rot"—that the Volunteers were a humbug, and they would not join. If it came to be a matter of compulsion, and these young barristers had either to join a regiment as privates, where they would have to sleep twelve in a bell tent, or else join the Volunteers as officers, I think there could be no doubt as to where they would go.

Mr. COGHLAN MCHARDY (late Captain Middlesex Yeomanry Cavalry):—It is clear from what has passed to-day that the opinion is very general that we are approaching the time when probably conscription or compulsory service will be absolutely necessary. There is no doubt that the defence of this country—what is termed our Home Defence—must mainly rest upon our Navy. If we lose command of the sea, there will be no necessity for any European Power to land in this country to enable them to dictate terms; it would be quite sufficient for them to cut off our food supply and starve us out like rats. According to the

papers, we have now about a three weeks' supply of food in the country, and I believe we very seldom have more than sufficient for about six weeks. If we ever go to war again—which seems very improbable judging by the treatment by other nations, which for the last fifty years we have so quietly submitted to—we shall have to act up to the old adage, and “Carry the war into your enemy's country.” Ships alone are hardly able to do that to the extent necessary, and therefore with our small Army it is almost certain that the greater part if not the whole of the Regulars would have to be sent out of the country, and this would be impossible if we had not the Militia, Yeomanry, and Volunteers. If there is to be any considerable increase in the Army such as we heard to-day, two points have to be met: firstly, an approach to compulsory service; and secondly, an increased expenditure. Whatever steps are taken towards compulsory service, we may be quite certain that they would be very gradual; no such radical change would be carried out by Parliament at one step. I should like to take this opportunity of asking those who are interested in the matter to consider the following suggestion, which is one I have for many years been considering, and have proposed to two Chancellors of the Exchequer. I referred just now to the additional expenditure which would be necessary; as matters stand at present, all of us, irrespective of whether we are by personal service siding in the defence of our country or not, are called upon to contribute on the same ratio to the increased expense. I have served ten or twelve years as a captain in the Yeomanry, and thus have contributed towards the defence of my country, and I am ready to do so again. But I may have as a brother one of those lazy idle fellows we have heard so much of to-day, who smoke cigarettes and look on; and if he will not drill and by personal service contribute to the defence of his country, it seems only fair that he should pay more towards this additional expense than I have to pay. The suggestion which I want you to consider is the adoption of a poll tax, say five shillings, eight shillings, or ten shillings a head, whatever you like to fix it at, for every man between the ages of twenty and fifty throughout the country; exempting from that poll tax every man who is serving either in the Navy, the Regulars, Militia, Yeomanry, or Volunteers, and has a certificate of efficiency, or who has done ten years' service with a certificate of efficiency. Then, when you put the tax on a bricklayer, and he says he has a wife and large family and cannot afford it, you can say, “Well then, do not pay it, but join a Volunteer regiment or the Militia.” I have written to two Chancellors of the Exchequer suggesting this, and they have very kindly acknowledged the receipt of the letter, but nothing further has been done. I should be glad if those who are interested in the question and approve of the suggestion would urge it on the Government. It is the thin edge of the wedge towards that compulsory service which will have to come if Continental nations keep on enlarging their Navies and Armies as they are doing now, and if we are not going to truckle to other nations in the way we have invariably done for the last forty or fifty years.

Lieut.-Colonel H. C. BOYES, in reply, said:—I thank you very much indeed for the very kind way in which you have received my paper and for the very kind expressions which speakers have made use of, not only towards it, but also—which I feel very much indeed—towards myself personally. I feel rather in the position of one who is asked what he has to say before sentence is passed upon him, because I know very well that the time is about to come when all that I have said will be subjected to a very severe and no doubt crushing criticism from our Chairman, and that all my assumptions will be thrown to the winds. I will not attempt at this late hour to answer all that every one of the speakers has said, because I am sure I should be standing between the meeting and any remarks which you, Sir, will favour us with, which will be much more valuable than anything I could say. It seems to me that, as usual in these discussions, a good many of the speakers have answered one another, and some of them, I think, have answered themselves. If General Dunne will excuse me,

I should like to put him in that category, because he began by criticising the suggestions in my paper, and finished up with the praise of the Swiss system, which is practically just what I was arguing for. When he asked what was to happen in this country if we had such an enormous mass of people being trained annually, I think it is only necessary to point to Switzerland to show what might happen, because there you have also a proportion of the population, the same proportion as I am suggesting of this population, being trained in a way which has elicited the highest admiration of General Dunne, and of everybody who has seen it. They have certainly proved my case better than anything I could say now. There is one point which several speakers have referred to, namely, the question of the Ballot for the Militia. I think that is the most important alternative that has been suggested, and probably I may be excused if I say just one or two words on that point. The reason why I do not think the Ballot for the Militia would be so satisfactory as a system of universal compulsory service is simply that it is a very partial and consequently somewhat unfair measure, and one that would be likely to be resented. You would have one man taken and another left by mere chance, and those who were taken would be pitchforked into military service whether they liked it or not. To my mind the proper solution is that every man should serve. It would not be necessary, I think, to have compulsory service for the Regular Army, and, therefore, I think Colonel Stewart perhaps a little misunderstood what I anticipate would be the effect of my scheme. I believe we shall have universal compulsory service for Home Defence, and if we do we shall train up all our young men, and a certain military spirit will be infused into large numbers of them. We see that in the Volunteers now. They largely supply men to the Regular Army. When a young man is induced to join the Volunteers he not only goes through a training which prepares him for the Army from a physical point of view, but he also imbibes military ideas. If we had universal service for Home Defence, we should have a sufficient number of Volunteers from that to form our Regular Army for active service abroad, and men of the right sort, and of the right age—enthusiastic soldiers. Just one other point, and that is as to the Militia affecting the Volunteers, and Volunteers recruiting affecting the Militia. I think there is no doubt that that sort of thing is going on to a very great extent, and that I think is the answer to Lord Raglan and one or two others, who think it is a great pity to abolish the system of Volunteers and Militia. I think it would be a very great thing myself that only one force for Home Defence should exist; you may call it Militia—"Local Militia" perhaps would be as good a name as any—or "Home Defence Army." Then there would be much greater simplicity of organisation, and with that, as Colonel Alt has pointed out, should come much greater economy.

The CHAIRMAN (Colonel J. H. A. Macdonald):—Ladies and Gentlemen, my friend Colonel Boyes, in his playful remark which he began with, suggested that I was going to be very severe in criticising his lecture. I have no intention of being so. I do not even feel myself in the position of being able to sum up this matter at all, and I shall only conclude the discussion by making a few observations which have occurred to me. I am not prepared to express any opinion upon any general scheme for altering the condition relating to the formation of our Home Forces. I do not think we are in a position to do so just now at all. Before we form any opinion upon that matter, we should like to know from the authorities what it is they want. In particular, we want to know how many guns we are going to have; that is to say, how many men must we have properly trained for field artillery; and that is the first and most important question, because I think, as Colonel Bethune Patton pointed out, merely to enrol a number of men under any system—call it whatever you please, compulsory service, or conscription, or volunteering—without knowing what you are going to make of them and what proportion you are going to use for each arm of the Service, would be just simply to play with the whole

matter. I think we must all agree that a great step was taken when field pieces were served out to a great number of Volunteer corps. I rejoiced to see that done, although I have never been connected with the artillery branch of the Volunteer Force, because it was obvious that a force of that kind could not be of practical value unless it had a proper proportion of mobile artillery. But then the misfortune is that as regards that artillery it is all armed in such a way that it could not possibly keep up to its work if we were engaged in any actual service, because it is served with old guns and with shot of different makes and sizes, and practically it would require the organisation of an angel from heaven to arrange that proper ammunition should in war-time reach the proper guns all over the country. As a matter of fact, the direst confusion would result if it was necessary to move them about the country for duty. If the country is going to provide an army for Home Defence better than it has now, it must provide a proper armament for the artillery branch of that army, and until that is done all the rest is practically of very little value. I wish to make a remark in passing, because there was a reference to the idle gentlemen who smoke cigarettes. I do not say that they all smoke cigarettes, some of them may smoke long cigars, for anything I know, but I do know this—and I am sure no one who knows this country can deny it—that there are hundreds, and even thousands, of young men of the upper ranks of life who have not much to do, and some of them nothing to do, who never do anything at all that can be called anything else than wasting their time. I do not know about London. I always thought there were a good number of idle young men in London, and wish I could think I was mistaken; but I do know about my own home. If Lord Raglan comes down to Edinburgh, if he is fond of an occasional game of golf, I will undertake to show him on our golf grounds young men in considerable numbers who spend their whole lives in what they call sport, working pretty hard at what is of no use to any one, and therefore in a degree demoralising to themselves. There are also a great many young men who spend a great part of their lives in playing football. I highly approve of both those sports as relaxations after duty well performed. But the fact that in so many cases they have taken the place of duty is another proof that there is nothing new under the sun. In the time of James the Fourth of Scotland there was an Act of Parliament passed forbidding young men to play the "idle games of football and golf"; young men had to go to the butts and shoot so many arrows for so many weeks, in order to prepare themselves for the defence of their country. Now golf has invaded the world, the golfing army is the only successful army in the world. I must say that I cannot conceive anything more discreditable to the young men of our country than that so many of them lead idle lives; it is one of the things which always follow wealth. If a country gets too wealthy there are so many people who have plenty of money and will not take the trouble to devote themselves to anything. And not only so. Does not Lord Raglan know many young men who ought to be engaged in politics, who ought to be taking some interest in the politics of their country, but who will not give up a single day from their pheasant shooting in the autumn to attend a political meeting? They say, "Oh, no; we have another engagement." It may be severe to say so, but I am sure each one of us must know in his own acquaintance a number of young men who have been steadily demoralising and injuring the citizenship of this country by absolutely idle habits. All these men would be useful if they would take commissions and make up their minds to do what it is very difficult for a man to do who has nothing to do, namely, find time to do something. The only man who can never find time to do anything is the man who has nothing to do. It is the men who are most active and most keen in their own businesses and professions who find their leisure time occupied in doing something practical, and who do not idle their time with too much golf or too much cigarette smoking, or whatever it may be. I think that the most beneficial effect of the Volunteer Force of this country is that it has familiarised the nation,

familiarised people all over the country, with the idea that the citizen can be armed without any tendency to the militarism which prevails elsewhere. It has familiarised them with the sight of the practical soldier going about in their midst, and familiarised them with the idea which they never had before, that a soldier was something else than a mere ruffian, who is to be kept down by an iron discipline, and who is to be sent to fight the battles of his country abroad, earning no respect; and although the people have pleasure in cheering him when he comes home successful, they will not associate with him. An enormous benefit has been done in that way, and we want to go a great deal further with our Army. We shall never know what capacity we have for recruiting the Regular Army in this country till the whole of society learns to treat the soldier in their own minds and in their actions differently from what they do now. We are a very conservative race, although there are plenty of radicals among us, and they, perhaps, are more conservative in this than the most conservative in politics. We have never got it out of our minds yet that a private soldier of our Army is a kind of pariah who is not to be allowed to sit down in a respectable restaurant beside other citizens because he has the red coat of the Queen upon him. I know a case where a man was refused entrance to a church in England because he was in company with a soldier in uniform. That state of mind is a very evil and a very discreditable one. But it will never be eradicated out of the mind of the community generally unless everyone who has a respect for the Army and desires to see it popular in this country sets himself against it. We ought to make social efforts to make the soldier what he has never been in this country, as he ought to be, a citizen like ourselves, not a man separated off from citizenship into a distinct caste which is looked upon as low. If we could accomplish that, we should do a very great deal. General Dunne said, what rather surprised me, that it showed a want of patriotism that a man who was asked to be a soldier wanted to be paid well for that as well as for anything else. I cannot see that. I cannot see that if you ask a man to give up the best young years of his life to the service of his country and propose to pay him half of what he can earn elsewhere, that he is less patriotic than others if he declines to do that and prefers to take better wages. Why is one man less patriotic than another who refuses to join the Army? If a man is asked to join the Army and will not join it for that reason, he is just doing what other citizens are doing; they do not join for the same reason. Do you suppose for one moment that if a man in the Army were placed in such a position that he was really fairly well paid for his services, that you would have any difficulty in filling the ranks? I have not a doubt myself that even if you approached to something like 75 per cent. of what a man could earn in ordinary life you would get plenty of young men to come into the Army. It is no use tinkering away with halfpence, and that sort of thing; giving him what corresponds to what the wages of men were fifty, sixty, or seventy years ago. In those days you paid the soldier so much, but the ordinary labourer was hardly getting any more. The ordinary labourer perhaps was getting ten or twelve shillings a week, and out of that twelve shillings a week he had to provide for his wife and family; whereas in the Army a man was provided with quarters and fuel and candles, besides his pay. I do not think there is anything unpatriotic in a man saying, "If you ask me to give the good years of my life, when I feel the greatest activity in me, and you propose to take it out of me and use it for the service of the country, I ought to be reasonably paid like other men for my work." Then I would add another thing. When people say—what I am always very proud to hear—that Volunteers learn their drill a great deal quicker than the recruits in the Army, they say that that is because they are a better educated set of men and are of a better class. That may to a certain extent be true; but I will say this, that I am satisfied that a good deal of the difficulty in training the soldier in the past has been that we have not realised that gradually he was getting to be a better man

than he was a great many years ago, when our soldiers were all recruited from the large amount of riff-raff we had in our population. We have not realised that yet. Our system of training the soldier until lately has been on the old lines. When you got the soldier the first thing you did to him was to bring him down to a certain level. One ought to realise that the class of recruits we get now is very much better. I think everybody admits that now. They are young boys, and are not enlisted at a period when their life has been ruined or when they are already drunkards. If you realise that and give them encouragement in training, that will be a great step towards popularising the Army, and so overcoming the difficulties of recruiting. I am glad to say that it is being done. The new physical training which they have is given in a totally different way; it stimulates the intelligence instead of pulling it down. The old idea of the drill-sergeant was to bring the men all down to a dead level, not to let them think at all, but to bring them into such a state of mental subjugation that they would act like performing dogs at a particular sound; that was all that was aimed at. That was called discipline. Now you must develop their intelligence, not only because they have got it, but also because the work they have to do requires a great development of intelligence; and your success in doing that depends upon the class of non-commissioned officers in the Army, the Militia, and the Volunteers. There has been far too much of the sergeant being looked upon as merely a sort of supernumerary rank man on parade, and a man to look after the pay for the captain off parade, and bullying the men about little things. The sergeant must now be a real leader of his men, leader of their intelligence; they must be ready to follow him, and you will never succeed in making your soldiers fight as they ought to do until you have developed your non-commissioned officers into real commanders and intelligent commanders, not mere Red Book parrots. I am not going to detain you any further except with one observation, and that is that I do not agree with my friend in his idea of a return to long service, and I will tell him my reason. The soldier you want nowadays is not a soldier who has had long service to that extent that he has become a man somewhat advanced in years. In the old days, as we know from our reading, the actual physical exercise of fighting a battle was nothing to what it is nowadays. It was a matter which the general in those days did not take into consideration; he took into consideration the difficulties of the long marches and that kind of thing, and what he could accomplish in that way. But if he had his men on the spot, the mere physical strain of the combat was a thing which he did not consider at all. Von Clausewitz is quite distinct upon that. But now you must consider the changed conditions, and therefore you must have men who are not only in good health, but men of extreme activity, not only as regards distance, but as regards speed. You may have to move your troops with great rapidity from one point of the very wide battle-field of to-day to another, and then to be still in trim for hours of fighting; and you must have men who have the perfect power of youth for that. I do not mean to say boys by any means, but I mean youth in the sense of men certainly not more than 26 or 27 years of age; such would make the best soldiers, I think, and therefore I do not believe that the return to long service—which would be absolutely impossible even if it were desirable—is a suggestion which ought to be listened to for a moment. I thank you for the attention with which you have listened to these desultory observations; but I am sure you will all agree with me in this, that there is a great problem before the country as to what our future is to be with regard to our Home Defence. I am not sure that we quite know yet fully what the character of that problem is, and that is the reason that I for one am not prepared to express any opinion as to what the solution should be. But when we get the aid of gentlemen who give their minds to it carefully, as our friend the lecturer here to-day has done, and those who have spoken in this place, it will all tend to the subject being duly worked out, and I am sure it could not have had anything better in the way of a stimulus than the

address we have had to-day from Colonel Boyes. I am certain that you will all join with me in according him a very hearty vote of thanks for the very excellent lecture he has given us, and for promoting the interesting discussion which we have had to-day. I have seldom seen in this Institution a larger number of gentlemen come forward to express their views after a lecture, and I am sure that Colonel Boyes will take that as a compliment, although they did not agree with him on all points.

RECENT CHANGES IN THE RIGHTS AND DUTIES OF BELLIGERENTS & NEUTRALS ACCORDING TO INTERNATIONAL LAW.

LECTURE No. 2.

*By J. MACDONELL, Esq., C.B., LL.D., etc.,
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Major-General J. F. MAURICE, C.B., R.A., *p.s.c.*, Commanding the
Woolwich District, in the Chair.

LET me at the outset briefly state the purport and conclusions of the first lecture which I had the honour to deliver, and to mention the point at which I stopped. I attempted to show that international law was in a state of rapid change; that some parts of it as taught in books had little vitality; that new rules were being formed, that many old rules were unsuitable to present conditions; and I endeavoured to make clear the direction of certain of the chief changes.

Some of those changes have long been going on; such, for example, as the decline in the belief in a system, vague, exalted, superior and anterior to municipal law known as the "Law of Nature," the diminution of the influence of Roman law, the consequent decay of the influence of lawyers in a region in which they had once exercised unquestioned authority, and the growth of a spirit of "military realism" which proclaims that the necessities of warfare have no laws. Then, passing to minor and more recent changes, and taking as a point of departure the close of the war with Russia, I went on to name some recent events of moment in the history of international law; for example, the Declaration of Paris, which recorded the abolition of privateering, and affirmed the principle "free ships make free goods"; the rise of a new conception of neutrality expressed in the Foreign Enlistment Act of 1870 and in the rules of the Treaty of Washington; the encroachment on the rights of neutrals by the revival and extension of the doctrine of "continuous voyages," and the dangers to neutrals of still further encroachments of their rights in future development of war; and I named certain dangers affecting England in particular, against which the Submarine Cable Convention of 1884 did not provide.

These multifarious subjects were not, I hope, wholly unconnected. At every point I was trying, probably with indifferent success, to throw a search-light round the horizon on the points of conflict between the old

and new elements; to show where changes were going on, where others might be expected; to insist on the fact that even the best of books on this subject still used formulæ no longer closely fitting facts; and to urge that some chapters, so far composed solely in the interests of belligerents, must be re-written in the interests of neutrals.

Towards the end of the first lecture I pointed out that the question of the treatment of submarine cables in times of war has been left in perilous obscurity. Perhaps I may be allowed to return to this subject. The 15th Article of the Submarine Cable Convention expressly reserves the rights of belligerents, which, I take it, include cutting or injuring any cable likely to be useful to an adversary, however injurious such interruption may be to neutrals. This is confirmed by referring to the *procès-verbal* of the proceedings. I find that the Belgian delegate, M. Orban, stated that "as he read the article the text recognised the liberty of action of the belligerent, and by implication his right to cut submarine cables, even those that land on neutral soil."¹ Another representative at the Conference gave formal intimation at an early stage in the proceedings that the convention for the protection of submarine cables should have no application except in time of peace. At the time of signing the convention, Lord Lyons presented a declaration in the name of the English Government to the following effect:—"Her Majesty's Government understand by Article 15 that in time of war a belligerent Power which has signed the convention will be free to act in regard to submarine cables as if the convention did not exist." M. Orban, the Belgian delegate, added a declaration to much the same effect:—"The Belgian Government, by the medium of its delegates at the Conference, has maintained that the Convention had no effect on the rights of belligerent Powers; these rights would be neither more nor less extensive after the signing of the Convention than before."²

There is little doubt that it was the opinion of the signatories of the Convention of 1884 that a belligerent might freely cut submarine cables—might, for example, sever the connection between England and her colonies and foreign possessions without just cause of offence.

The question of cutting submarine cables is not the only practical question of consequence. Scarcely less serious is the risk of a refusal of their use at a critical moment. Suppose that England were at war with one of the great Powers; she would be obliged to communicate with some of her colonies, her distant armies and fleets, through Lisbon, which is, as you know, the meeting point of several lines. Another plexus of cables meets at Marseilles. In war-times telegrams directing naval or military operations in cipher or otherwise would be constantly passing to and from England, to be transmitted from Lisbon or Marseilles. Communications occasionally so sent, we may take it, would count for nothing. But if messages conveying military orders were passing daily and hourly, as would be the case at a crisis of war, would our adversaries long tolerate

¹ 12^e Séance, 94.

² *Procès-verbal de Signature*, p. 8.

this? Would they not take Portugal to task for acting as the agents of the English Government? Would not the conduct of that State be denounced as unneutral? According to modern notions, the essence of neutrality is not to suffer one's territory to be used by a belligerent as a basis for military operations, or acts approximate thereto. Would not conduct such as I describe, however harmless the motive, be denounced as a breach of this rule? If our adversary happened to be a powerful State, able to put pressure upon Portugal, would she not be inclined to say: "To be the medium of conveying daily or hourly messages from your Admiralty and War Office to your fleets and armies involves us in too great a risk to be continued"?

In an interesting communication on this point, Professor Holland has suggested that it would be "reasonable, as it is in accordance with analogy, that a belligerent should be allowed within the territorial waters of his enemy to cut a cable, even though it may be neutral property, of which the *terminus ad quem* is enemy's territory, subject only to a liability to indemnify to the neutral owners. The cutting elsewhere than in the enemy's waters of a cable connecting the enemy with neutral territory receives no countenance from international law. Still less permissible would be the cutting of a cable connecting two neutral ports, although messages may pass through it which by previous and subsequent stages of transmission, may be useful to the enemy."

These opinions are worth considering, and may in the end be adopted by general consent. Only let us not assume that such will be the case. To my mind we go the wrong way to work if we here try to put new wine into old bottles—if we do not frankly recognise that precedents are of little use in solving the difficulties which I have stated. The Institut de Droit International, which has done much for the elucidation of many similar questions, and which investigated the subject of the position of submarine cables in 1878-79, could find few worthier subjects for study than this question, which has assumed aspects very different from what it then presented. The labours of the Institut would be at least useful as a preliminary to an international conference resulting either in an agreement, or, what is more probable, considering the conflict of interests, in distinct knowledge that agreement is impossible, and in an exact appreciation of the perils menacing the Empire.¹

¹ It may be worth while citing here extracts from some letters which appeared in the *Times*, on the subject of submarine cables. Mr. Parsoné, manager and secretary of the South American Cable Company, on June 1st, 1898, wrote:—"During the Franco-Prussian war—1870-71—cables connecting places on the French coast were systematically cut in extra-territorial waters, and later, in the war between Chili and Peru, the cables of an English company connecting those two countries were cut in territorial waters, and, I believe, also in extra-territorial waters. The Chilian Government was called upon to indemnify the company for actual and indirect loss occasioned by this action, and had the claim been submitted as a whole to the international commission which sat to adjudicate claims resulting from the war, their judgment might have formed a lasting precedent for parallel cases. The Chilian Government, however, at once admitted its

With two other remarks on this question I pass from it; the chief links of telegraphic communication that make the scattered members of our Empire one, pass through the territories of two States: one a small State, Portugal, liable to be coerced by a powerful belligerent; the other a possible adversary. The second remark is this:—Do not let us trust to the chapter of accidents to see us through these difficulties. In the formation of international law there has been far too much of the wisdom of the ostrich—putting one's head deep in the sand and waiting until the danger blows over.

Of the notable modern changes in international law and usage—I can scarcely describe it as of very recent date—one has been elucidated very carefully by our Chairman to-day. In his work "Hostilities without Declaration of War" he has shown how the practice of issuing a declaration of war before beginning hostilities has fallen into disuse. In early times it was, as you know, otherwise. The Romans had a picturesque and impressive ceremony as a prelude to every regular war. Cicero thought that no war could be just unless it was preceded by a formal declaration. "*Ac belli quidem æquitas sanctissime feciali populi*

liability to reimburse the company for all expenses connected with the repair of the said cables, and this sum was accepted by the company in full compensation for all prejudice sustained by it. This very frank action by the Chilean Government, so far as it goes, should be kept in mind as forming a precedent for the liability of States, which may in time of war find it expedient in their own interests to cut submarine cables or interfere with telegraphic communication by their means."

Mr. Charles Bright, in a letter to the *Times* of June 3rd, wrote:—"Surely a consideration of the prospects points, Sir, to the necessity—aye, urgent necessity—of a system of cables connecting the entire British Empire by direct and independent means—*i.e.*, without touching on foreign soil! In the event of a permanent and reliable understanding being arrived at with our American cousins, the United States would not require to be regarded as foreign territory; and if, for certain purposes, a further alliance including Japan was agreed to, two Pacific cable schemes might be united in one. Reciprocally, a telegraphic clause would be one of the most important items in any convention constituting an Anglo-American alliance and Customs union, whether Japan be also allied with us for strategic and trade purposes or not.

"Such a convention would tend to ensure the naval supremacy of the English-speaking world in the Pacific, and would render us independent of the good offices of our European neighbours.

"It is known that the Americans are taking active steps in the direction of a cable from San Francisco to Japan. If the understanding here referred to were brought about, a comparatively short branch from the above to Australia, would also embody every element of the all-British line lately considered by the Colonial Office. My remarks are, of course, rather from the national point of view than from that of a shareholder in existing cable systems. Moreover, they do not apply to the project for an all-British line to the Cape and Australia, *via* Gibraltar and various important naval stations—an admirable project in itself so far as it goes.

"I am glad to think, Sir, that you recognise the entire subject as one of vital importance just now; and I trust that, considering the strained condition of European politics, the matter will be thoroughly gone into."

Professor Holland, in a letter to the same journal, of June 6th, remarked:—

Romani jure perscripta est. Ex quo intelligi potest, nullum bellum esse justum, nisi quod aut rebus repetitis geratur, aut denunciatum ante sit, et indictum."¹

Even Cæsar, who narrates the cruelties which he practised in cool technical words, and who thought most things fair against the Fuzzy-wuzzies of his time, seems generally to have drawn the line at making war without warning. In mediæval times it was the fashion to give formal notice by heralds of the intention to make war. He was no true knight who attacked his foes without warning. In the last century the better opinion was that a declaration should precede civilised warfare. Vattel holds that view:—"A declaration of war being necessary as a further effort to terminate the difference without the effusion of blood by making use of the principle of fear in order to bring the enemy to more equitable sentiments, it ought at the same time that it announces our settled resolution of making war, to set forth the reasons of that resolution. This is at present the constant practice among the Powers of Europe."

To-day that is not so; a declaration of war is no longer deemed obligatory; the civilised man may strike down his foe without warning.

Always quick to adopt Western practices, the Japanese have adopted

"The Institut, at its Paris meeting in 1878, appointed a committee, of which M. Renault was chairman, to consider the whole subject of the protection of cables, both in peace and in war; and at its Brussels meeting in 1879 carefully discussed the exhaustive report of its committee and voted certain 'conclusions,' notably the following:—

"Le câble télégraphique sous-marin qui unit deux territoires neutres est inviolable.

"Il est à désirer, quand les communications télégraphiques doivent cesser par suite de l'état de guerre, que l'on se borne aux mesures strictement nécessaires pour empêcher l'usage du câble, et qu'il soit mis fin à ces mesures, ou que l'on en répare les conséquences, aussitôt que le permettra la cessation des hostilités."

"It was in no small measure due to the initiative of the Institut that diplomatic conferences were held at Paris, which in 1882 produced a draft convention for the protection of cables not restricted in its operation to time of peace; and in 1884 the actual convention, which is so restricted.

"It may not be generally known that in 1864, before the difficulties of the subject were thoroughly appreciated, a convention was signed, though it never became operative, by which Brazil, Hayti, Italy, and Portugal undertook to recognise the 'neutrality' in time of war of a cable to be laid by one Balestrini; so, in 1869, the United States were desirous of concluding a general convention which should assimilate the destruction of cables in the high seas to piracy, and should continue to be in force in time of war. The Brussels Conference of 1874 avoided any mention of 'câbles sous-marins.' The moral of all that has been written upon the subject is obviously that drawn by Mr. Charles Bright, viz., the urgent necessity of a system of cables connecting the British Empire by direct and independent means, i.e., without touching on foreign soil."

The *Western Electrician*, in its comments on the same subject, says:—"It is generally held that all nations reserve to themselves the right to cut submarine cables in war-time as a military necessity or belligerent right, but it is possible that a civil claim for damages to the service would be admitted." (Quoted in the *Electrical Review*, June 10th.)

¹ "De Officiis," 1, 12. The context is well worth reading as expressing the conception of a lofty mind in antiquity as to the *jura belli*.

this innovation also; the declaration of war against China was dated 1st August, 1894; the "Koshung," an English transport, carrying Chinese troops to the Corea, was sunk by the Japanese on 25th July. This is not the time or place to condemn or approve of the change, or to inquire whether, with the conditions of modern warfare, the formalities of a declaration are out of the question. The point which I press is, that teachers of international law have not been alive to all that is involved in the change, and that a multitude of practical questions are left in a state of uncertainty and confusion. In some dispute as to the frontier line of a distant colony two commanders misunderstand their instructions, or lose their tempers; shots are exchanged, and hostilities begin, at first on a small scale, but spreading gradually over a large area; when the news reaches England, it may be too late for the authorities at home to disavow what has been done, and war may be begun with its consequences, not only to the States concerned, but to the citizens of neutrals, before they are aware that peace has ceased to exist.

To provide against this contingency, some treaties stipulate that no rupture shall be considered as having taken place between two countries until the recall or departure of their diplomatic agents. Certain treaties of peace provide that all prizes captured before a declaration of war shall be restored. Sometimes too, this is done as an act of courtesy and grace—courtesy, which it is fair to note, has been freely shown in the present year.

In strict right I take it that all the Spanish ships captured by American cruisers were lawful prizes, if, in fact hostilities had previously begun. That position we took up more than a century ago (1761) when France complained that English vessels had made captures before the declaration of war and demanded that "captures before the declaration, except King's ships, should be restored, or a recompense made, because taken contrary to the law of nations." So confident were the French of the righteousness of their demands that they offered to refer the question to our own courts. England refused to give way; her contention being that the demand of restitution of captures before the war could not be admitted, for it was not founded "on any particular convention, nor yet resulting from the law of nations, for the right of all hostile operations results, not from a formal declaration of war, but from the hostilities which the aggressor first offered."¹ Before the Supreme Court of the United States in 1862 came a similar question, complicated somewhat by the fact that Congress alone can, by the American Constitution, declare war. Vessels and cargoes had been captured by Federal cruisers before the Presidential proclamation of blockade of April 1861; a proclamation which implied the existence of a state of war. A majority of the Court held—and if it is not presumptuous in me to say rightly held—that those captures were valid if in fact a state of war existed.²

So far the consequences of the doctrine are pretty apparent. But

¹ "Annual Register," 1761, p. 39.

² "The Hiawatha," 2nd Black, p. 665.

there is a large group of questions on which no light is procurable from the books; I might instance a group of questions connected with the Foreign Enlistment Act. As I explained in my first lecture, this statute imposes on all citizens, but especially on those connected with shipping and shipbuilding, heavy obligations, the breach of which is punishable by fine or imprisonment. It is an offence to accept a commission in the naval or military service of a foreign State at war with another State at peace with England; to go on board a vessel with intent to accept such a commission; to take on board persons illegally enlisted; to build a ship with intent or knowledge or reasonable ground to believe that the same will be employed in naval or military service. These and many other acts are punishable if done for the benefit of a State at war with another State friendly to England. Now, when do these obligations arise?¹ No doubt the existence of a war is a question of fact. Unfortunately, it is often a difficult question.

It is pretty clear to me that the Act was drawn by those who had in their minds the old doctrine, that a declaration of war precedes hostilities; and it is scarcely less clear that the Statute must be applied, and that it will be cited against us, if we fail in our duty as neutrals, by those who will have present to their minds the new doctrine. War breaks out between States of which A and B are not subjects. Hostilities are begun, let us say, in West Africa or Siam. The liability of A to be punished, the right of B to be paid for building a vessel of war on the Tyne or Clyde, might in some degree depend on the dates of skirmishes in places of which A and B never heard, and in distant territories of States not their own. According to a generally accepted doctrine, war terminates certain contracts between subjects of the belligerents, and suspends other contracts. A enters into a contract with B to carry coals from Cardiff to Cherbourg or to build a cruiser. The rights of A under the contract may turn on events in a distant part of the world. And the vital question may be one of extreme difficulty and nicety as to which authorities differ. In the *Teutonia*, Sir Robert Phillimore, after full argument, held that the Franco-Prussian War began on the 16th July, 1870. The Judicial Committee held that he was wrong; and I believe that jurists are still divided as to the exact date of the beginning of the Crimean War.

I come to a part of the subject which does not happen, just at present, to be in the front, but which is of equal importance with the matter already mentioned—the laws and usages for the mitigation of the evils of war to combatants and non-combatants. It is not easy to say how far the rigour of war is actually diminished. It is too much the fashion of those who extol the humanity of this age at the expense of past ages to dwell on isolated examples and incidents, without regard to their context or the general complexion of warfare. This is misleading. A history of warfare in the nineteenth century which referred solely to Bazeilles, Badajoz, and the Libby Prison, which did not mention the Geneva and Brussels Conventions, the Sanitary Commission of the American Civil War, and the

¹ See Mr. Dana's note to 8th ed. of "Wheaton's International Law" on the consequences of war.

courtesies of the present war, would be inaccurate, but not more so than some pictures contrasting the savagery of past ages with the humanity of our own. One thing stands out clear in the history of war: When it is prolonged, when race passions are aroused, when the people espouse the cause for which armies fight and when partisans take the field, the "amenities of war" are cast to the wind, and cruel things are done just as when men fought with the untamed passions of primitive times.

Melancholy is the contrast between the purity of the intentions of some of the chief actors in the Thirty Years' War, and the miserable results. The Swedish Articles of War, 150 in number, we are told, were written in the King's own hand, and were models of good resolutions. "They commence with ordinances for maintaining and cultivating a spirit of religious reverence in the Army. All acts of profaneness are punished with rigorous severity. Regulations are made for the daily celebration of divine service, for the due observance of the Lord's Day, etc. No duels are permitted. In the capture of a town, the churches, hospitals, schools, and mills are not to be fired upon without express orders; unresisting old men, women, and children are to be exempt from injury."¹ And yet these admirable resolutions availed little. It is an inexorable law of warfare that cruelties and license on one side breed cruelties and license on the other side; that in the long run the higher standard of conduct is brought down to the level of the lower. In the end the troops, for whose use the Articles of War which I have described were composed, behaved not much better in their victories than the Imperialists, the soldiers of Tilly and Wallenstein. Indignant at the atrocities of his German troops, Gustavus on one occasion exclaimed:—"The very devils in hell are more loving and trusting to one another than you Christians are among those of your own country."²

Of the writers of antiquity, Polybius has on this subject, so far as I know, ideas nearest to those of our own time; and you will permit me to cite a passage from his history, partly because it has a modern air and partly because I am not sure that it has been cited in books on the laws and usages of war.

Describing certain campaigns, he condemns the wanton sacrileges committed by the troops of Philip II., and he deplores the carrying away of statues and pictures from Syracuse much as modern writers on international law have condemned Napoleon's spoiliations in Lombardy or our own unhappy exploits in Washington in 1814:—

"Whereas the taking and demolishing of enemy's forts, harbours, cities, men, ships, and crops, and other such things by which our enemy is weakened, and our own interests and tactics supported, are necessary acts according to the laws and rights of war; to deface temples, statues, and such like erections is pure wantonness, and without any prospect of strengthening oneself or weakening the enemy must be regarded as an act of blind passion and insanity. For the purpose for which good men wage war is not the destruction and annihilation of the wrong-doers, but the reformation and alteration of the wrongful acts. Nor is

¹ Chapman's "Gustavus Adolphus," p. 90.

² Hosack, p. 205.

it their object to involve the innocent in the destruction of the guilty, but rather to see that those who are held to be guilty should share in the preservation and elevation of the guiltless." Book 5, 11.

In another passage Polybius observes :—

"The ancients, so far from using a fraudulent policy towards their friends, were scrupulous even as to using it to conquer their enemies ; because they did not regard a success as either glorious or secure which was not obtained by such a victory in the open field as served to break the confidence of their enemies. They therefore came to a mutual understanding not to use hidden weapons against each other, nor such as could be projected from a distance ; and held the opinion that the only genuine decision was that arrived at in a battle fought at close quarters foot to foot with the enemy. It was for this reason also that it was their custom mutually to proclaim their wars, and give notice of battles, naming time and place at which they meant to be in order of battle. But nowadays people say that it is the mark of an inferior general to perform any operations of war openly. Some slight trace of the old-fashioned morality still lingers among the Romans ; for they do proclaim their wars, and make sparing use of ambuscades, and fight their battles hand to hand and foot to foot."¹

These are modern sentiments, perhaps a little too high-flown and rising to impossible heights of virtue. But Polybius and the few writers who expressed the like opinions spoke only for themselves. They were not the spokesmen of a large solid body of public opinion condemning the conduct which they condemned. Doubtless there is no sharp antithesis in warfare between the humanity of our time and the cruelty of the past. There were stern and there were merciful conquerors, but their mercy was fitful and personal ; the ancient usages mitigating the severity of war were unsystematic. No one can read attentively ancient descriptions of warfare without noticing the evidence unconsciously given of far-extending miseries befalling non-combatants, not merely the grim realities of the battle-field, but the fringe of fire, rapine, murder and disorder all around, and the voiceless suffering long-enduring after the slain were buried and the wounded tended and the marks of strife effaced by the healing hand of Nature. In books of international law much is said of the desolation of the Palatinate in the wars of the seventeenth century, when whole districts were laid waste with the sanction of the most enlightened monarch of the time. But if the country was laid waste by the orders of Louvois, and if houses and churches were overthrown and no seeds permitted to be sown within the pale of devastation, the people were not massacred ; Europe protested ; and some of the best soldiers, as we read in Marshal Villars's Memoirs, murmured at the work to which they were put.² Three or four centuries earlier the people would have been massacred, Europe would not have protested ; and the soldiers would have done the work without misgivings.

When you come to look closely into the history of the usages of war, it is remarkable to find how much which we now take to be settled beyond question was even lately deemed uncertain, how men of culture

¹ Book 13, c. 9.

² See Marlborough's expressions of regrets at ordering the wasting of the country in the neighbourhood of Munich, as quoted by Hosack.

and humanity nor far removed from our own time permitted or approved of practices which strike us as detestable. Wolff and Bynkerhoeck—two of the originators of international law, the last-named probably the most acute intelligence ever directed to the subject—seem to think the use of poison in warfare perfectly legitimate. "Everything is lawful against an enemy," says the latter. The polite Vattel, who had seen actual warfare thinks his teacher Wolff a little lax on this point, but Vattel himself is not a purist:—

"The use of poisoned weapons," he remarks, "may be excused with a little more plausibility, at least there is no treachery, no clandestine machinations. But the practice is not the less interdicted by the law of nature, which does not allow us to multiply the evils of war beyond all bounds. To get the better of an enemy, he must be struck, and if once disabled, what necessity is there that he should eventually die of wounds? Besides, if you poison your arrows, the enemy will follow your example."

Writing with all the culture of his age, Gibbon remarks in reference to the use of poison by Belisarius at the siege of Ravenna:—

"In strict philosophy a limitation of the rights of war seems to imply nonsense and contradiction. Grotius himself is lost in an idle distinction between the *jus nature* and the *jus gentium*, between poison and infection; which persiflage means that all is fair, one thing as good as another, in warfare."¹

There still are recognised certain refined distinctions hard to explain; distinctions which show that international law was first studied at a time when the science of casuistry was much cultivated; for example: the rule that it is permissible to deceive an enemy's vessel or troops by hoisting false colours, or wearing an assumed uniform, provided the true colours are hoisted, the true character of the attacking party shown, before the first shot is fired.

I might illustrate the humanising of the usages of war by reference to the treatment of prisoners. In ancient warfare the fate of the captive was death or slavery.² In the mediæval times a prisoner was looked upon as the perquisite of his captor; a species of booty or loot preferable to most other forms because portable and readily convertible into cash; property as to the transfer of which there were elaborate rules. Let me cite in illustration of this a sentence from the Articles of War of Richard I.:—

"If any one take a prisoner, he shall take his faith and also his bacinet or gauntlet to be a pledge and in sign that he is so taken, or he shall leave him under the guard of some of his soldiers, under pain that if he takes him and does not do as is here directed, and another comes forward and takes him from him (if not under a guard) as is said, his bacinet or right gauntlet in pledge, he shall have the prisoner though he first had taken his faith."³

¹ Dr. Arnold, in his lectures on history, delivered in 1841, discusses "the supposed right of sacking a town taken by assault," as if it were a dubious question of practical moment.

² See Lecky's "History of European Morals," 2, 272; and for an account of the treatment of prisoners in the "Age of Christianity," see Hosack's "Rise and Growth of the Law of Nations," chap. iv.

³ Grose's "Military Antiquities," 2, 67.

Even as late as 1780 there are traces that a prisoner was still viewed as the property of the victor. There was a regular scale or tariff of payments. According to the cartel of 1780 the ransom of a field-marshal was £60 sterling or sixty private soldiers; the tariff for a private soldier was £1 a head. As an example of the persistence of ancient ideas, I may mention that some modern writers advise diplomatists to insert a provision in treaties of peace expressly providing for the release of prisoners. The only notable survival of barbarism in this respect which occurs to me is the rule—abrogated apparently in some countries, but retained by us for reasons never satisfactorily explained—that the crews of private vessels captured at sea are treated as prisoners of war.

To sum up one's conclusions as to this part of the subject: look at things in their true properties, not making too much of exceptional aberrations of passion, and it will be owned that progress in mitigating the evils of war has been immense; that acts of useless violence, which were once habitual are now exceptional, and are punished or condemned by military opinion. Ask those who say "Things are much as they were; the grim realities of war no better than before," to note the matter-of-fact way in which Comines or Froissard relates cruelties as the necessary accompaniment of warfare; then compare with such passages some of the many handbooks published by European Governments for the use of their troops. It has been truly said that the difference between the methods of the Thirty Years' War, and of the War of the Spanish Succession, is the difference between darkness and twilight; the difference between warfare as understood by Tilly and Pappenheim, and that described in modern official manuals, is the difference between light and darkness.

Everywhere is recognised that only effective injuries are justifiable. The modern soldier strikes hard; he does not mutilate or destroy for the love of destruction.¹

In regard to the treatment of public property of an enemy there has been a remarkable advance; the immunity of such property from seizure or destruction has been established. And in continuation of my remarks as to the discrepancies between the practice and the theory of international law, it may be noted that many of the books and manuals deal with this matter in a much less liberal spirit than the actual practice of war. I may refer to the manual published by the United States at the beginning of the Civil War for the use of its soldiers; a manual which has been imitated in other manuals published by several Governments; a manual which has been greatly beneficial to humanity; and which it is safe to say will be remembered when much of the literature of the century is forgotten.

Nothing can be more enlightened and humane than the general

¹ "So hat sich nun im heutigen Kriegerrecht in erster Linie der Satz ausgebildet, dass dem Feinde nur so viel Schaden zugefügt werden darf, als der Zweck des Kriegs erfordert."—*Militär-Wochenblatt*, 1895, p. 223. For a statement that "modern warfare is still the same" as ancient, see Long's "Decline of the Roman Republic," 4, 252.

character of the "Instructions."¹ We find in them such directions as these:—"Classical works of art, libraries, scientific collections, or precious instruments such as astronomical telescopes, as well as hospitals, must be secured against all avoidable injury, even when they are contained in fortified places whilst besieged or bombarded."

But we also come upon rules lending themselves to abuses, such as the following:—Article 36: "If such works of art, libraries, collections of instruments, belonging to a hostile nation, or government, can be removed without injury, the ruler of the conquering State or nation may order them to be seized and removed for the benefit of the said nation." Even the article on the subject adopted at the Brussels Conference is obscure and defective:—"Toute saisie ou destruction intentionnelle de semblables établissements, des monuments, des œuvres d'art, ou des musées scientifiques, doit être poursuivie par l'autorité compétente."

The English manual speaks cautiously and dubiously on the point:—"The seizure of scientific objects, pictures, sculptures, and other works of art belonging to the public has derived some sanction from the repeated practice of civilised nations; but would seem incompatible with the admitted restriction of the rights of war to depriving the enemy of such things only as enable him to make resistance, and can only be justified as a measure of retaliation." P. 311.

Some passages in accredited text-books go far to excuse the systematic rapine practised by Napoleon, by order of the Directory, in Lombardy. It is submitted that here too the practice of modern warfare is better than the letter of modern text-books. No victor in recent times has acted upon the opinion that national monuments or treasures are part of the spoil of war.² None of the treasures of the Louvre or Versailles were removed by the Germans; and we are encouraged to hope that the looting of the Summer Palace at Peking and the destruction of property which one who took part therein said could not be replaced for four millions, is a thing of the past.³ No soldier of to-day would think of doing what Blücher could scarcely be restrained from doing in 1815 in Paris, blowing up the bridge of Jena, because, forsooth, it was a monument offensive to the glory of the Prussian Army.⁴

¹ The manual is entitled "Instructions for the government of Armies of the United States in the Field," prepared by Francis Lieber.

² An exception seems to be made in dealing with uncivilised communities, and indeed all communities not within the pale of international law.

³ Boulger's "Life of Gordon."

⁴ "Histoire du Maréchal Davout," 2, 694.

Probably a correct statement of the opinion of modern jurists is to be found in the "Manuel de Droit International" (used in the French Military School). With reference to museums, public libraries, public archives, historical, artistic and scientific collections, it states:—"Tous ces biens doivent être respectés par l'occupant autant et plus même que la propriété privée. Non seulement les lois de guerre ne permettent plus que l'occupant se les approprie, mais elles les placent sous sa protection particulière et lui imposent l'obligation de les préserver de toute atteinte."

In regard to *private* property on land, some of the manuals prepared by soldiers, or at the instance of modern Governments, leave little to be desired. They recognise requisitions and contributions. They act on the principle "War must live by war." But the best military writers on the usages of war—and I beg to emphasise this—seem to me to have grasped the idea that war is a struggle between Governments and States, and that non-combatants are not to be injured except so far as this is necessary or unavoidable. According to the manual from which I have quoted, it is stated (Article 37):—

"The United States acknowledge and protect, in hostile countries occupied by them, religion and morality; strictly private property; the persons of the inhabitants, especially those of women; and the sacredness of domestic relations; offences to the contrary shall be rigorously punished." Article 38: "Private property, unless forfeited by crimes or by offences of the owner, can be seized only by way of military necessity, for the support or other benefit of the Army of the United States. If the owner has not fled, the commanding officer will cause receipts to be given, which may serve the spoliated owner to obtain indemnity." Article 68: "Unnecessary or revengeful destruction of life is not lawful."

Article 69: "Outposts, sentinels, or pickets are not to be fired upon except to drive them in, or when a positive order, special or general, has been issued to that effect." Article 72: "Money and other valuables on the person of a prisoner, such as watches or jewellery, as well as extra clothing, are regarded by the American Army as the private property of the Government, and the appropriation of such valuables or money is considered dishonourable and is prohibited. Nevertheless, if *large* sums are found upon the persons of prisoners, or in their possession, they shall be taken from them and the surplus, after providing for their own support, appropriated for the use of the Army, etc."

Here I find the judicial writers on the usages of war lagging somewhat behind the actual practice. They still teach, according to what strikes me as a fiction of barbarism, that the effect of war is to make all intercourse between citizens of the two belligerent States unlawful; to suspend some contracts and to void others; and to turn, as the phrase is, the citizens of one State into the enemies of the citizens of the other. Here and in the United States this doctrine has been laid down on the highest authority:—

"Every individual of one nation must acknowledge every individual of the other nation as his own enemy, because he is the enemy of his country."

"Whatever relaxation of the strict rights of war the more mitigated and civilised practice of modern times may have established, there has been none on this point." "The universal sense of nations has recognised the demoralising effect that would result from the admission of individual intercourse between States at war."¹ "According to strict authority," says Kent (I., 55), "a State has a right to deal as an enemy with persons and property so found in its power, to confiscate the property and detain the persons as prisoners of war."²

Some of the older legal authorities laid it down that debts due by

¹ Marshall C. J. 8 Cranch 155.

² Contrast with these sentences the following remarks from the article in the *Militär-Wochenblatt* already cited:—"Im Anschluss hieran hat sich der fernere Grundsatz ausgebildet, dass im Kriege nur die Staaten, nicht die Privaten, als Feinde gegenüberstehen. Die Privaten sind also keine Feinde, sind nicht mehr rechtlos an jeder Schädigung unterworfen."

alien enemies to native subjects of England are in time of war forfeited to the Sovereign. In "*Antoine v. Morshead*," 6 Taun. p. 236—a case which I do not quote as in all respects good law—the Court said :— "However valid a contract originally may be, if the party became an alien enemy, the Crown, during the war, may lay hands on the debt and recover it; but if it do not, then, on the return of peace, the rights of the alien are restored, and he may himself sue." Our Courts would be bound to apply some of these doctrines to contracts in time of war, and in the case of certain contracts this would be perfectly reasonable. Some contracts—for example, those relating to arms and munitions of war, etc.—it would be contrary to public policy to enforce in such times. Other arguments expressly state that they are inoperative during hostilities. But where the parties have not said so; where there is no *force majeure* making performance impossible; and where the interests of the State are not concerned, I find it hard to think of a good reason for the doctrine which prevails in law courts and text-books. I fail to see anything so "demoralising" as Chief Justice Marshall conceives in private persons continuing to pay their debts in times of war; nothing praiseworthy in, say an American insurance company to which you had regularly paid premiums declining to pay promptly your widow or executors your policy because there happened to be a state of war. Why, when you come to think of it, should the payments of debts due by the subjects of one belligerent due to the subjects of another be either voided or suspended? In civilised States in modern times there is no suspension of the payments of public debts. Every Government makes it a point of honour to pay the dividends on consols or rentes to the subjects of friends and foes.

The fact is that two rival theories are in the field—the new and the old; one embodied in the saying of Portalis—" *La guerre est une relation d'État à État et non d'individu à individu*"—and in the proclamation of the Emperor William on entering France in 1870—"I make war on the French soldiers, not the French people"; the other and older theory that war implies a contest between subjects and subjects. The books still teach the second theory; the practice of nations more and more approximate to the first; and we cannot have a doubt which theory is destined to survive.

Chief among those who have in our time laboured to mitigate the evils of war is Alexander II. For ever illustrious in the annals of humanity will be his name. He who at home freed the serf had much at heart the humanising of war, and laboured hard, and not altogether in vain, to this end. At his instance was convoked the Conference which resulted in the Declaration of St. Petersburg; a Declaration which, as you know, bound the chief nations to renounce the use of explosive bullets of less than 400 grammes in weight. He tried to do more; at his instance was convoked a Conference at Brussels in 1874, with the object of coming also to an agreement as to the usages of war, and to eliminate from the military code all unnecessary harshness. The Conference was in one sense a failure; it produced no scheme universally accepted; a failure, I grieve to add, in

some degree perhaps due to the instructions given by the late Lord Derby to our representative, not to enter into any discussion which might, however remotely, affect maritime warfare, or take part in any discussion which might appear to extend to general principles of international law not generally recognised and accepted. In spite of the deluge of cold water poured on the proceedings at starting, many points of details were agreed upon, and more might have been done, but for a fundamental difference between the representatives of the large States possessing great Standing Armies and of the minor States with small Armies; a disagreement on which I dwell, because I believe it reveals one of the great difficulties in the future development of the laws of war; difficulties which it would be well to remove, if possible, before in some war it bears bitter fruits. You will understand that the representatives of Germany, Russia, and France thought that war should be the business of professional, trained soldiers; that they, and, as a rule, they alone, should fight; that war should follow a regular course; that the worthlessness in a military point of view of the sporadic efforts of partisan warfare should be recognised; that when a decisive battle was won and the seat of Government was in the possession of an invader, the inhabitants should respect the conquerors as the *de facto* and *de jure* Government. If they interrupted communications and cut off isolated bodies of troops, they are to be dealt with, not as honourable combatants, but as assassins and marauders. All this was stoutly contested by the delegates of small States, such as Belgium, Holland, Switzerland, and Sweden; to admit it would be suicidal for countries possessing no large Armies, and trusting in the hour of extremity to a *levée en masse*. Within the range of his guns and to the verge of his furthest outpost, the authority of the invader extends, but no further. He occupies only what he holds by present force, and the people of the invaded country owe him no duties. "No country," said the Belgian delegate, "could admit the first part of General Voigts-Rhetz's proposition, that if the population of a *de facto* occupied district should rise in arms against the established authority, they should be subjected to the laws of war in force in the occupying army. He admitted that in time of war necessity might occasionally force the occupier to treat with rigour a population who might rise, and that on account of its weakness the population would be forced to submit. But the idea of delivering over in advance to the justice of the enemy the men who from patriotic motives and at their own peril expose themselves to all the dangers consequent upon a rising, is one which no Government would dare to entertain."

You perceive some of the consequences according as one or other of the policies which I have described is followed. Adopt the first, and then war becomes regular; it is the operation of disciplined troops conversant with its usages; a few fierce battles are decisive. The administration of the country passes into the hands of the conqueror, who hastens to put things in order; and peaceable citizens buy and sell, reap or sow a few days after Waterloo or Gravelotte has been fought. Adopt the first policy, and undisciplined bands of peasants with arms in their hands get short shrift; attacks on isolated troops are sternly punished;

and the patriot runs great danger of ending his days alongside the murderer and the thief. Adopt the second policy; permit patriotism to do what it is moved to do in its blind effort to expel an invader, and then come acts of savagery and wild excesses; and you cannot hope that the usages of war will be respected. It is an antithesis often noted in warfare;¹ and the Brussels Conference ended without removing a difficulty which, I fear, in the first European war waged between a great State and one not possessing a large Army may lead to a repetition of the troubles which marked the last stage of the Franco-German War. Here international law has not spoken the much-needed word of reconciliation between two conflicting theories. Perhaps in the vocabulary of law no such word exists.

Still pursuing my search into the points of conflicts between the old and the new elements, I may mention one matter which calls for solution. I have referred more than once to the antagonism between "military realism" and the humanitarian spirit of our time. This antagonism comes to light in sharp criticisms of the Geneva Convention, one of the greatest triumphs of mercy of our time; not merely well-founded complaints as to abuses connected with the Red Cross badge; for example, ignorance of its significance; the supposition that "any man or woman wearing a white armlet with a red cross upon it was free to go pretty much where he or she thought fit with a proud contempt of such things as military passes"; the use of home-made armlets without any military sanction, the display of Red Cross flags over houses which did not shelter wounded, the use of the sign by makers of patent jellies and medicines.² "Nothing," says Mr. Furley, "has ever been more generally abused, both in peace and war, than the Red Cross, and unfortunately it has not been made a penal offence to use this distinctive emblem without legal authority." The point to be noted is that military literature is full of criticisms and carpings of the working of the Convention, and that military authorities allege that some of its articles interfere with military necessities. And yet the very same writers admit that the need of an organisation such as the Red Cross is likely to become greater than it has been; that large though the proportion of wounded has been in the battles of the past—it was about one-seventh of the whole in the fighting round Mars-la-Tour—it may be increased in battles of the future. How the thousands likely to be disabled by modern

¹ See Jomini, "Histoire Critique," 4, 705, as to the terrible results of *levées en masse*; and contrast the atrocities committed in hostilities between the Spaniards and Cubans with the honourable warfare waged by the Americans against the Spaniards. See also Professor Hollond's lecture on the Brussels Conference of 1874.

² Mr. Furley on "The Geneva Convention"; JOURNAL of the Royal United Service Institution, October, 1896, p. 1,218.

A writer in the *Militär-Wochenblatt* (1895, p. 2,263) calls attention to the need of ready and certain means of identifying killed or wounded:—"So wurden nach 1868 nicht weniger als 7,000 Preussische und 12,000 Oesterreichische Soldaten aus dem 1866^{em} Kriege vermisst."

weapons are to be tended; how a vast organisation necessary for the wounded is to be maintained in the field consistently with the duty of a commander to strike, and strike hard, is a problem which the books have, so far as I know, not solved.

And here, before I close my hasty examination of the points of antagonism between the old and the new, I may be allowed to hazard a few conjectures as to what might have been, and some diffident predictions as to what may come to pass, in the development of the laws of war. To Suarez, Albericus Gentilis, Grotius, and a group of writers who followed them, are due many mitigations of the cruelties of wars. The jurists have been here pioneers and reformers. But I can conceive that the course of events might have been different, and that the world might have gained the same benefits by other ways and from other hands. In the institutions and ideas of chivalry—in its conception of the perfect knight, bound to practise courtesy and mercy, to protect the weak and avenge wrongs; in fraternity among all true soldiers, lay the seeds of a civilised code of warfare embracing combatants and non-combatants; a code which might have spared the world the atrocities of the Thirty Years' War. That was not to be; high ideals degenerated into usages, pedantic, fantastic and unreal; and the long procession of knightly figures beginning with the companions of King Arthur and Charlemagne ended with Don Quixote. I can conceive also that the idea of military discipline, as understood in the trained Armies of the sixteenth and seventeenth centuries, developed and enlarged, might have formed usages of war not very dissimilar to those which the jurists evolved. All that was crude and barbaric might have been cast out, and duties to the unarmed, the aged, and the young, might have found full recognition in the articles of war.¹ I have present to my mind a treatise written in the seventeenth century by Justus Lipsius, a scholar, but also a man of affairs, and it is worth noting how, starting from a wholly different point from that of Grotius, he travels towards the same goal. Discipline, Lipsius defines, as a stern conformity to military efficiency and virtue; and in his analysis of the elements of discipline he lays stress on three virtues—self-restraint, modesty, and abstinence—which he explains to include temperate conduct to peaceful inhabitants. One cannot read the memoirs of the great professional soldiers of the sixteenth and seventeenth centuries, the Condés, the Villars, the Berwicks, the Richelieus, the Schombergs, without seeing that they had a code of high honour and traditions of courtesy not unlike that which Lipsius describes, notions of discipline and self-restraint, the bone and marrow of all law. One cannot help admiring their serenity and gaiety in trouble, their gentlemanly way of spilling blood, the tranquillity with which, a *mot* on their lips, and more concerned about their ruffles than their lives, they faced perils and hardships.

It is conceivable that the traditions of honourable warfare, to which they were on the whole faithful, might have been continued and improved, and the usages and articles of war gradually, and without pressure from without, made more and more humane. That also was not to

¹ "Politicorum sive Civilis Doctrinæ," Libri Sex. Lib. 5, c. 13.

be. This school of traditions produced chivalrous soldiers; it also produced Pappenheims, Rosens, and Dugald Dalgettys. And even if the professional code of discipline had carried within it the germs of better things, they were destroyed by a great cleavage in the history of war. I speak with just diffidence on this point in the presence of experts; but, if I am not misinformed, a change took place when on the field of Valmy the raw levies of the French Republic proved a match for picked troops trained in the school of Frederick the Great. You know the saying on that day of Goethe, who was present at the battle in the camp of the Allies. Asked by his friends, amazed at the check which they had met, to say what he thought of it all, he answered:—"From this place and from this day forth commences a new era in the world's history," a saying true in senses which Goethe probably had not in his mind; true, I am told on high authority, of the military art, for from that time, or at all events from the victories of the French Army which followed Valmy came the notion of an Army embracing virtually the whole nation; the disappearance of the idea of an Army as a caste apart from the people, and the break-up of the traditions and code of honour which had preserved among professional soldiers some of the "amenities of war." The soldiers to whom Napoleon addressed his famous proclamation at the opening of the Italian campaign:—"You are badly fed and almost naked. The Government owes you much, and can do nothing for you. I am about to lead you into the most fertile plains in the world, where you will find great cities and rich provinces, honour, glory, and riches"; these soldiers, whose excesses Davout, as we read in the memoirs of that marshal, had often sternly to repress, were of a different breed from the men imbued with hereditary notions of discipline whom Condé, Saxe, Luxembourg or Frederick commanded. And that was not the only change affecting the laws and usages of war which then came to pass. The swift movements of large bodies of men of which Napoleon set the example, necessitating an extension of the requisition system and the appropriation at times of the whole resources of a country—changes admirably described by General von Hartmann¹—profoundly affected the usages of war; they could not be what they were with the small Armies of Louis XIV. or Frederick the Great, and in days when commanders went into winter quarters in bad weather.

I come here to the point which I have all along had in mind. I have sought to show that some old agencies in the development of international law are inoperative, that the jurist has no longer the authority once his; and that he must seek, in further developments of international law, the aid of the diplomatist and soldier—the aid of the soldier in particular. And if I could gain the ear of any one conversant with modern warfare, I would say to him:—"Few more useful tasks could occupy you than to show how far the promptings of humanity may be reconciled with the exigencies of modern warfare—how far consistently with swift movements and large military operations the usages of war

¹ *Militärische Nothwendigkeit.*

may be still further leavened with that spirit of humanity saturated with good sense which is the essence of international law ; to produce for the use of armies in the field a manual with precepts not perplexing to the general in command or offensive to the humane."

In preparing such a manual, the view of the soldier must as to many points be final. The usages of war are largely a function of weapons and armaments. Grotius, almost the first systematic writer on international law, compiled his treatise *De Jure Belli ac Pacis* at a time when a change in the conditions of warfare had taken place ; when regular highly-trained Armies were in the field, when cities were strongly fortified, and when the issues of campaigns could be determined only by trained troops. To vex and harass non-combatants, to put to the sword people whose death did not diminish the number of efficient troops, had become as clearly useless as it was cruel. This will hold good, I suppose, in the future ; and in the last resort a soldier must determine what ameliorations of the usages of war are admissible. The Germans were much criticised in 1870-71 for bombarding small unfortified places. What is the value of such criticism, if it be true, as stated by General Wartensleben in his answers to such criticisms:—"A comparatively short bombardment causes far less loss of life, especially among the civil population, than hunger and sickness during a long period of investment and regular siege work" ?¹ We have all read denunciations of commanders who have during a long siege refused to allow the civil population to quit the city, or receive food from without—an incident which we read of in Cæsar as happening at the siege of Alesia, and which has often recurred—and I have in my mind an eloquent condemnation by the late Dr. Arnold in his lectures on Modern History, of the cruelty practised by Lord Keith's fleet at the siege of Genoa in allowing month after month no food supplies to pass the iron circle of investment and reach the famine-stricken inhabitants. What is the justice of such denunciation if no other course consistent with the object of war, *i.e.*, swift and complete conquest, is possible ?

There is still need however of the co-operation of the jurist ; he may correct professional prejudices ; he can contribute helpful experience ; he may be the representative of conscience working in the light of knowledge ; he can put into form the wishes and practice of honourable soldiers ; he can foresee the consequences and conflicts of rules. Wherever law appears come perplexities as to right and wrong ; the services of the expert are needed to remove them. If the jurist does not choose to abdicate his functions he will greatly aid in composing that ideal manual of the usages of war which I have indicated—a manual which is not, so far as I know, yet written in any language, which is much needed, and which I would fain hope will be, if ever it appears, the work of an English officer.

Lieut.-Colonel T. H. BAYLIS, Q.C. (late 18th Middlesex V.R.C.):—This is a most interesting, instructive, and well-timed paper, the result of deep research, for which we owe a debt of gratitude to the lecturer. He has contributed already to the literature of the day on this subject in various publications of an ephemeral character.

¹ "Operations of the First Army," by Count Wartensleben, p. 76.

I am glad to say this will not be of an ephemeral character, as it will be published in the *JOURNAL* with the discussion. The great object of the lecturer has been to bring to public notice the recent changes in the rights and duties of belligerents and neutrals according to international law, and, as he has shown, the changes are not only great but rapid. Whatever might have been the law in the olden times, it would not apply now. Circumstances have changed, and the one which is the most important is that international law will be controlled by public opinion. When I say public opinion, I mean public opinion everywhere, all over the world. As regards belligerents and neutrals, there are other changes to which the lecturer has alluded, besides public opinion. That of blockades by steamships, and the use of coals instead of sails. There is a change as to what is contraband of war in each case. Coals may be a food available for the fighting force of the belligerents. As to submarine cables, which not only affect belligerents, but all the world, in the interchange of the business and amenities of life, belligerents may assert their right to destroy, even if they belong to neutrals, when they may be utilised for conveying intelligence prejudicial to their interests. A declaration of war, as has here been observed, is unnecessary. The old decisions in our Admiralty Courts with regard to the rights of neutrals and belligerents depended on jurisdiction. It is laid down by all the old authorities that where there is jurisdiction in an Admiralty Court, wherever it may be, it gives the right of decision to that Court, on the facts from which there is no appeal, except that if the public opinion of the world be opposed to an inequitable or manifestly unjust decision—retaliation or war would be the result, and the neutral would become a belligerent. Great changes have been caused by recent legislation. In 1864 three Acts were passed, viz., "The Naval Prize Acts Repeal Act," "The Naval Agency and Distribution Act," and "Naval Prize Act," for which last we are indebted to Admiral Sir John Hay, now present. The Foreign Enlistment Act was passed in 1870, besides the Declaration of Paris, 1856, and treaties. If a case were to come before a Court of Admiralty now, it would have to consider the various changes in public opinion and other circumstances, and not be bound by the obsolete decisions of Lord Howell and other distinguished judges. This lecture will, I hope, lead to good results, not only from the paper itself, but also from the discussion. One great desire of the lecturer seems to be, which I hope will be realised, that a manual should be published through his paper and this discussion giving an abstract of the statutes and general principles, having regard to the recent changes mentioned by him.

Admiral the Right Hon. Sir JOHN C. DALRYMPLE HAY, Bart., K.C.B., LL.D., F.R.S.:—I feel myself quite unable to criticise or completely to agree with the admirable lecture to which we have just listened. It would be taking up the time of the meeting unnecessarily to discuss a subject of this sort without having the facts before one. I remember when I was made captain very many years ago I applied to the commander-in-chief, who was a man of great knowledge on these matters, and I said: "What are the books that I should study on international law?" "Well," he said, "Captain Hay, I think the best thing for an officer to do is to read the Queen's Regulations and the Admiralty Instructions and the orders he gets from his commander-in-chief; if he sticks to them he need never mind the lawyers and international law; we will bear the blame." That is very much the line on which I suppose all naval officers have endeavoured to perform their task. There are some who have had, in their library at sea, Vattel, perhaps, and McCulloch's Commercial Dictionary, and certain Acts of Parliament we are bound to read, with regard to the slave trade and other matters, and they have more or less muddled their brains, I suppose, as I did, by endeavouring to get a clear instruction as to what they ought to do under the circumstances. Of course it was very interesting to read, but it did not help you very much in the duty you had to perform, which had to be performed according to the instructions of the commanders-in-chief, which they had previously received. The object of war is,

as I understand, to obtain peace, eventually, and before that to attain certain objects, liberate Cuba we will say, or perform any other necessary act which the Government of the country think the public spirit of the country requires. The way to get that done is to inflict the greatest possible damage upon your opponent, and I believe the most merciful thing is the most complete destruction, so long as a state of war exists, of everything belonging to that opponent. I cannot think that Admiral Aube was very wrong—he was at the head of the French Admiralty about ten or fifteen years ago—when he said the proper manner of bringing this country to order was to burn Brighton and Scarborough and a few other places, which would bring us to terms. That was his view of his duty, and I cannot say that he was wrong. It was our duty to prevent it. That I recognise. The whole of the country is engaged in war, they pay taxes for the war, they encourage their sailors and soldiers to fight courageously, they suffer for the war in various ways and they urge it on, and they must expect to suffer accordingly. I myself am one of those who think that an agreement such as that which was made—I forget the date, but it was alluded to by the lecturer—that explosive bullets should not be used in war, was a great mistake. I think it tied the hands of certain nations. A very gallant officer whose people I know, who died soon after the battle of Atbara the other day, was killed by an explosive bullet, at least he eventually died of it. We tied our hands against using this very implement which is being used against us. Why should we do that? The explosive bullet was valuable for exploding a tumbrel, at any rate it was valuable for certain purposes. There are better methods probably for taking life. I recollect with satisfaction an expression of the Duke of Wellington, that he should not like to see the bullet reduced in size because it broke the bone; because what you want to do, if you do not kill a man, is to put him in hospital and keep him there. You want to do the greatest possible destruction to the enemy in order to make him cave in. The same mistake I think is made with regard to the question of privateering. We own half the tonnage of the world. We arranged with certain nations that we would not use privateers. You could not regulate those ships as you could a man-of-war, or vessels properly commissioned for the purpose. Your days of convoys are gone. Your mercantile ships could protect themselves if they were duly authorised to make war by letters of marque, and the merchant who authorised under a letter of marque his merchant-ship to perform the duty of protecting herself would also assist in destroying the enemy's commerce, if the officers and persons on board that ship were to receive the benefit of the prizes so taken. Therefore, while we have an overwhelming amount of merchant-ships, the very reason existed why we should not have given up the power of using them under letters of marque. I am merely touching the branch of a subject which it is impossible to go into without much more study than I have had an opportunity of devoting to it lately. My honourable and gallant friend alluded to the fact that I once passed an Act of Parliament on this subject. I will not ask you to read the Act, but I will ask you to allow me to sit down.

Captain R. B. NICHOLETTS, R.N. (retired):—I have listened with much pleasure to the very able lecture we have heard this afternoon. It is a subject in which I am much interested, particularly with regard to that part of it which relates to the Declaration of Paris. We have had a very able explanation of it from the lecturer and its probable effect in time of war, at the same time I do not think it is generally realised what an important bearing the adoption of this agreement may have upon future naval operations, for I cannot conceive of anything more fitted to strike at the root of the naval power of Great Britain than is contained in the four articles which constitute the Declaration of Paris. We attained our great naval supremacy during the last century and the early part of this, not only by the power of our fleets and the valour of our seamen, but by our insistence on the "Right of Search." We would not allow that free ships make free goods, or in other words that the neutral flag covers the cargo, and this "Right of Search"

was the foundation of our sea power. This is now changed. The Plenipotentiaries who were engaged in drawing up the Treaty of Paris in 1856 agreed amongst themselves to add a protocol to the Treaty by which Great Britain was at once deprived of that mighty weapon to which she owed her naval greatness. This unauthorised agreement on the part of our Plenipotentiaries has never been signed by the Queen, neither has it ever been submitted to Parliament. There is another point, and that is the abolition of privateering. As the last speaker said, Why should we not have privateers? The object of war is to harass the enemy as much as possible in order to make him desirous of peace. The privateers were not as some people think pirates, they were private men-of-war carrying letters of marque granted by the Government of the State to which they belonged and authorised to take prizes, which were duly condemned in the legally constituted Prize Courts. According to the first article of the Declaration of Paris, "Privateering is, and remains abolished." But is this so? I think not. We have it, or something akin to it, in another form. The Government subsidise in peace-time certain of the large and fast merchant steam-ships for the purpose of arming and using them as cruisers in time of war, the only difference being they will be commanded by a naval officer and manned by Royal Naval Reserve-men. In this, curiously enough, France, Germany, and Russia—all signatories of the Declaration of Paris—are following our example. And now, Sir, in conclusion, I would say that I most sincerely hope that before we are involved in war again the people of this nation will look into the Declaration of Paris, for I am sure when they have once grasped its possibilities and hidden dangers, there will be but one opinion, and that is, that it shall be abrogated, and that Great Britain shall again resume the "Right of Search."

Mr. W. MARTIN WOOD :—I should like to put a query to the lecturer bearing upon one of the principles of international law at the Congress of Brussels, that broke down chiefly because of the difference of sentiment and interests between the great States and the small States. The query I will put in this way: Is it not an essential principle of international law that all civilised States are in the same position of equality—just the same as in a civil community every member of it is in the same position before the law? That necessarily bears upon several remarks that have been made which I cannot touch on now. With regard to what has been said as to the whole nation being regarded as at enmity with and enemies of all the citizens of the nation opposed to it—which is, I believe, the old principle of international law—I understand the lecturer rather to qualify that; but the two gentlemen who have since spoken have referred to the old doctrine. With regard to that question of equality between States, small and large, several remarks have been made which go to show how, under modern conditions, with the enormous disproportion of forces, small nations—whose rights may be as valid and whose claims to existence and equality in the comity of nations is as strong as that of the large nations, would have no chance whatever. That principle of equality of rights being a true principle of international law should, it appears to me, be jealously guarded and maintained. That brings me back to the other question with regard to the necessity and obligation of a declaration of war—a formal and complete declaration carried through all its stages. Because I would like to remind members that however destructive and however merciless war must often be, there is a case on one side and a case on the other. There is a case which has to be stated, which has to be heard; and, according to the analogy of legal proceedings, each party should have a full opportunity of stating his case, of giving his rejoinder, and abiding by the results. All these essential principles which lie at the very foundation of international law are in danger of being neglected and whittled away; and, as I gather, the learned lecturer himself, although he has not gone so far as many other jurists have gone in that retrogression, made some remarks tending to minimise that necessity for a declaration of war. When I

say that, I mean all the proper steps which that juridical process involved. It seems to me one of the most serious aspects of the present position of international law and its professors is, that they seem generally to have derogated from the principles that their predecessors held in that respect; and I venture to say, although of course only a layman, that it is very desirable that those principles should be considered and guarded. That bears also upon the question of the equality of States in the presence of international law. The lecturer towards the close of his remarks said something to the effect that jurists were almost bound to put aside, or modify, their abstract views and defer largely to the actual usages of war, and that soldiers must be allowed to exercise their own judgment. I venture to think that is rather like a surrender of the jurist's rightful position. Soldiers and their action in a campaign are the subject-matter of the Law; they, in their conduct of hostilities, are the material which international law has to deal with; and we cannot be expected to take sanctions of law from the material circumstances and from actors, subject to that law, but from the lawyers and jurists themselves. I therefore venture to think that there has been a weakness or a backsliding in that respect. I do not know whether the lecturer will admit that; but there have been several instances of surrender of juridical functions in modern times. From the report of the lecturer's former paper bearing on these points, it seems to me that he, to his personal credit, showed that he is not quite so pliable and plastic as are some of his contemporaries and other professors of international law.

Dr. J. MACDONELL, in reply, said:—It is not necessary to say many things in reply to the observations which have fallen from the gentlemen who have addressed you. I agree with the last speaker that one finds in the accepted text-books on international law much said upon the subject of the equality of States, but I also think that you find that when the writers proceed to draw conclusions from that doctrine they ignore it or explain it away almost entirely. It is an excellent maxim in words; but, so far as I can find, in these latter days it is entirely innocuous of results. States, perhaps, ought to be equal; in books they are so; but according to the realities of warfare they are as unequal as their territory, as unequal as their fleets and their armies. Turning for a moment to the remarks of Captain Nicholletts, he made one or two observations with which I cannot entirely agree. The last observation which he made does not wholly command my assent. I endeavoured on the last occasion to point out that, notwithstanding the Declaration of Paris respecting privateering, there were ways and means tolerably easy of evading that Declaration, so far as privateering was concerned. I cannot agree with the other observation which he made in criticising those who ventured to question the value of privateering. He spoke of such an argument somewhat contemptuously. He spoke of the ignorance of some who used it. I could not help recalling that the one man who had spoken most strongly against the evils of privateering was Nelson. Another person who had expressed himself almost as strongly against the abuses connected with privateering was Admiral Codrington, who commanded at Navarino. Under cover of those august names I venture to adhere to the opinion I expressed on a former occasion. Lastly, with regard to the Declaration of Paris, respecting enemies' goods, I agree with the criticisms which were passed—some of them, at any rate—subject to these two observations: I endeavoured to point out that the consequences, so far as we were concerned, were apt to be somewhat exaggerated; and I also endeavoured to emphasise the fact that, however serious these consequences were, we could not go back to the old state of things without encountering the opposition, I might practically say, of the whole civilised world. I quoted, and I venture now to repeat, the saying of Captain Mahan, that the right of search which we once insisted on had for ever passed away, and could not be enforced again without creating an armed neutrality more powerful than the armed neutralities which we encountered in the

past.¹ I admire very much some of Sir John Hay's observations; though I cannot exactly say that I agree entirely with the spirit of all of them. It is delightful to hear those fine old doctrines with regard to unrestricted warfare to which he gave expression. Excellent though those observations sound, they are open to two criticisms. Unrestricted warfare, doing exactly as you please—burning Brighton or any other sea-side town, using every weapon that is open to you—may be an excellent thing, provided always that your opponents do not do the same. Then, of course, the aspect of matters changes, and the great advantage which you for a time gain by carrying on war regardless of the character of the ways and means and consequences, and with absolute indifference to the amount of suffering caused, disappear. There is another criticism which I would make, and it is this: Sir John may here express those doctrines; but I am absolutely certain that if the actual pinch came he is much too humane to act upon them. I think I have touched upon all the remarks which have been made, with one exception, and that is, the criticisms which fell from my esteemed friend, and I may add, my esteemed instructor, Colonel Baylis. I hold with him that there is something very remarkable and unnatural in the present position of Prize Courts. It is extraordinary that the Prize Courts of belligerents should determine the fortunes and the property of neutrals—that with regard to their own property neutrals should practically have no remedy. I remember that Lord Stowell always used to say that he sat not as an English judge, but that he administered international law. But when Lord Stowell was deciding with respect to the property of a Frenchman, a Portuguese, or a Swede, in spite of these excellent protestations as to his sitting as a judge of international law, I rather imagine that the Swede, the Portuguese, and the Frenchman would liked to have argued their cases before judges of their own countries. Various proposals for amending the constitution of Prize Courts have been made from time to time; but so far as I know no satisfactory scheme has ever been projected. Colonel Baylis has spoken of the great advantage there would be if a satisfactory manual were composed giving officers sound instruction with regard to points of international law likely to arise in the course of their experience. I think that such a manual would be exceedingly advantageous; and I feel sure that it could be prepared efficiently only by someone conversant as a soldier or seaman with the practices of warfare. This last point I insist upon: the matters to which I have adverted should be looked into, not in time of war but in time of peace. When passions are aroused, when supreme interests are at stake, it is too late to expect any country, even our own, to frame rules which are entirely satisfactory. *Inter arma silent leges.*

The CHAIRMAN (Major-General Maurice):—Ladies and Gentlemen, as far as I understand, the great object of Dr. Macdonell's lecture has been to lead up to the point that we want an authoritative determination of this question. I think that our discussion to-day has very much re-enforced that contention of his lecture, by the very distinct evidence it has supplied of widely divergent views as expressed in the words used by different speakers. But, first of all, I am nearly sure that I am safe in saying that the doubt that arises in almost everybody's mind in regard to this whole question of international law, which is, I am afraid I must admit, emphasised by a certain ripple of laughter which usually passes over the benches of the House of Commons, whenever the term "international law" is mentioned, is as to the means by which the authority of international law is to be supported. The authority of the judge in civil law is supported by the material force of the country behind him, and by the fact that he can order a man to be hanged under certain conditions, and the man whom he orders to be hanged will be hanged. But the question is, when you have found a man or a nation guilty of a breach of international law, how are you going to enforce that authority? Mr. Woods

¹ See *North American Review*, July, 1898, p. 100.

brought out the point when he complained of international lawyers for having spoken with a certain laxity in regard to the question of the necessity of a declaration of war. It is, as I understand, with them simply a practical question whether there is any use in copy-book morality that is never going to be put in practice. It was my business some years ago—and that was the reason why Dr. Macdonell asked me to preside—to deal, not with the legal aspect of that question, but with the practical point of the circumstances under which, historically, wars had been declared. When Mr. Woods spoke just now it refreshed my memory, and I turned up the facts. I was required to deal with about 171 years, that is, from the beginning of the eighteenth century up to about 1870 of this century. I was stopped then because I was getting a little closely—it was a few years ago—into the immediate politics of the day. I was writing an official book, and therefore I was stopped officially. But during those 170 years I found that there were only ten cases in which by any colourable construction, in any way whatever, it was possible to allege that a declaration of war had preceded acts of war; that there were 107 cases in which war had occurred in which the acts of war, each State acting a little more and being met by a little more action, so that fighting had preceded declared war, and the fighting had gradually led on to war; and I think, as far as my remembrance goes, that there was only one case in the whole of the 170 years where the declaration of war had consisted in the delivery at the foreign Court of the notice of intended war, which is the only thing of any value to you as a real declaration of war—the notice to you by the Court intending war that it is going to make war upon you. As a matter of fact, even in that case, the preparation for war had preceded the declaration, and the reason why the notice preceded fighting was merely that there had been no intervening period during which any effective hostility could take place. That was in 1870, and I think that is the only case which has occurred in which what you can fairly speak of as a notice of war preceded fighting. But the curious point—and I think that is of essential interest to the very great number of people whose views Mr. Woods represented here to-day—is that it is the civilisation of modern times, the unwillingness of nations to go to war, and yet more the unwillingness of ministers to say that they are responsible for war which tends to lead on to somebody doing a thing which they think necessary to meet some other act done by somebody else. I think the Crimean War is an instance of that. Each nation was doing just a little more and a little more, with plenty of people killed, but neither side willing to take the responsibility of saying that they were going to war. When you begin to talk about the positive necessity of having a declaration of war in the sense of a warning of war, of something that really gives notice to another nation; you will find that what happened in the case of the present American-Spanish war is the ordinary thing, viz., that the statement of the case on either side of reasons for war comes after ships, at least, have been seized both on one side and the other. That is characteristic of the opening of war between commercial nations. I think both Spain and America have behaved rather better than most countries have usually done in such cases. As a rule much more active hostility has preceded the official statement of the causes of war than has happened in this instance. It has been more a matter of the circumstances of the time than of any wilful wrong-doing in any of the cases which have occurred. If I may venture to express my opinion as a soldier who is no international lawyer, but who has studied international law a good deal, I am anxious to defend in this matter the international lawyers. I cannot help thinking that they are right in not putting forward a sham authority in relation to the question of declaration which would never be upheld in practice. The only force which supports international law is the appeal to the conscience of the nations. The appeal is a very important one, and it is of practical value to ministers, who have all authority in their hands, to be able to say to the public bodies to which they belong that they themselves are not exceeding the ordinary

rules of State and the laws of war. That is, as I take it, the support which makes international law of such very great value and of such very great authority, that where we get a number of men who deal with such questions practically and sensibly, and do not ignore the practical necessity which comes with war, those men do gradually exercise a most important influence on events, because they tend to influence the very men who determine, or who are the agents in determining, events. Take the present case. Mr. McKinley, whose moderating influence was so conspicuous, was throughout most anxious to make his whole nation feel that he was pedantically adhering to every principle of international law that he possibly could. I think that is an illustration of a very strong factor in the authority which is given to our international lawyers. Therefore, I feel that it is of the very greatest importance that Dr. Macdonell's view should be adopted, that there should be a very much closer relation than there has been between soldiers and international lawyers; and even more, that sailors who are more closely, especially in our country, concerned with the preliminary incidents which lead to war, should have a good understanding with those international lawyers, who have made it their business to study under this aspect past history and established precedent. It is almost always by our Navy that we undertake the first operation which leads to war. I find, historically, that England has more often than any other country in the world done hostile acts prior to any declaration of war. The sole reason of that is, that we have had much greater opportunities than any other Power conferred upon us by our naval supremacy. However that may be, it is of the very greatest importance that there should be a close relation between the men who, as lawyers, look at the question from the public point of view, from the point of view of the conscience of the nation, and us, who have to deal with it practically, that we should have direct communication with one another, and should thresh out the subject in its practical bearings. May I venture to state a personal experience of my own? Dr. Macdonell has criticised, to a certain extent, the Official Manual of Military Law. I have very little doubt that what he has said is quite correct, and that improvements in the completeness of the statements in the book in regard to international law might be introduced; but it did happen to me to have to read for the first time that manual at a time when I was in charge of a desert station, where I had on one occasion to get a man hanged, and on another to put a native chief under watch and ward, and I never in my life read any book with so much satisfaction and so much personal advantage as I did that Manual on Military Law. Reading it under those circumstances the test was a rather severe one for a volume composed by men at home who had seen little of the practical conditions of war, and I remember well that I then thought it the absolutely best manual I had ever read. I am not saying that anything we do is perfect, and I do not say that the manual does not admit of the improvements which Dr. Macdonell speaks of; but I must say that to me, under those circumstances, it was the greatest comfort to read its clear, broad statement of good honest facts, not shirking questions, but facing them fairly. Whatever improvements may be introduced in the future, I think it was an enormous step for us to take in the past. Formerly everyone at home had talked copy-book morality, and left soldiers without guide in doing the best they could. Personally, I think that both very cowardly and very immoral. The manual was brave and honourable.

TWO MEMORANDA REGARDING THE DEFENCES, HARBOURS, AND RAILWAYS REQUIRED BY CHINA.¹

By Lieut.-Colonel RHEINHOLD WAGNER.

Translated by permission by Captain P. HOLLAND, 5th Punjab Infantry.

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PREFATORY REMARKS.

AT the beginning of November, 1881, I was brought into communication with the Chinese ambassador in Berlin, Li Fong Pao. After discussing various other questions relating to the French proceedings in Tongking, the ambassador showed me, in June, 1883, a map of Port Arthur, the proposed dépôt for the Northern Chinese fleet (the Pejang squadron), and asked me for proposals as regards its fortification. These I drew

¹ Many of the names mentioned in this paper are not marked on the English map consulted during translation.—P. H.

up on general lines, stating at the same time, that though the position was undoubtedly one of great strategical importance, it was not sufficiently well adapted for the requirements of a naval base for a large fleet, being suitable only for a small depôt, or second-class harbour. I pointed out that some other spot must be selected as the main naval base. The ambassador thereupon sent me the English Admiralty maps, with a request that I would give my opinion as regards the suitability of Society Bay, and Port Adams, north of the Liao-tang Peninsula, and also as regards Ta-lien-wan. He also attached a naval chart of Port Arthur with the remark that perhaps on perusal of the same I might be disposed to modify my previous remarks. I held to my first opinion, however, and still maintained that the object in view was to be sought for elsewhere than in any of the places mentioned.

Richthoven's book on China was then unknown to me, but a study of the smaller maps drew my attention to the excellent strategical position of Kiao-Chou Bay. It was not, however, till November that the ambassador sent me the English Admiralty map of this locality, together with one of Wei-hai-Wei, asking my opinion as to the suitability of both for naval purposes. To this I replied that like Port Arthur, Wei-hai-Wei, though of strategical importance was, owing to its conformation, unsuited as a large naval base, but, that in my opinion, Kiao-Chou Bay was eminently adapted as such. I sent him at the same time a short sketch of my proposals as regards improvements and fortifications, etc.

Meanwhile affairs in Tongking had reached an acute stage. The French held the Chinese Government directly responsible for the continued resistance of the Tonkinese, and in December, 1883, it was announced in the Senate that Chinese territory would have to be taken until the Chinese Government redeemed the cost of the military operations in Tongking.

In February, 1884, when the French were expected to occupy Bac-Ninh, I explained to Li Fong Pao that China must now either come to some satisfactory understanding with France regarding Tongking, or find herself engaged in another war, which would result in operations against Peking itself, as the French would realise that it was there only that they could definitely settle the matter. War I could certainly not counsel, as China was in no sense prepared for a big campaign, and it would require at least ten to fifteen years in which to complete her military and naval preparations, railways and fortifications, etc. Meanwhile, the French could be left to their own devices in Tongking. They were bad colonists, and could easily be expelled, if China only seized the right moment.

A European conflagration would be the most opportune time, and the more complete the preparations made by China, the more numerous would be her allies. On the ambassador's expressing a doubt whether an agreement with France, more especially as regards her disclaimer of indemnification, could be arrived at, I replied that the proposed conditions of the agreement appeared to me to be favourable to

both parties. We then discussed military and other measures necessary. When I mentioned the great importance of railways in war-time, the ambassador was much struck. The Central Government had prevented the construction by foreigners (with permission of the provincial governor) of the small railway from Wusung to Shanghai. The stringent law against the construction of any railways in China was still in force, and it would be scarcely possible to cancel the same merely in the interests of commerce; but I thought it might not be impossible if the vast importance of railways in connection with the defence of the country were clearly demonstrated. I therefore seized the opportunity, when discussing the defences of Peking and its approaches, of demonstrating on the map the immense value, even within the limited area of Chi-li, of a small railway system, pointing out the possibility of a hostile landing, not only, as in 1860, at the mouth of the Pei-ho, but also at Ninghai and Shan-hai-kwan. These observations seemed to impress the ambassador greatly.

Coast batteries at Shan-hai-kwan, and other fortifications at Taku, Tientsin, and Peking could now be carried out provisionally, while permanent works, harbours, and railways must be constructed on some definite and well-considered general scheme, which I now undertook to draw up.

While I was thus occupied, the papers reported the construction of batteries at Shan-hai-kwan (Ninghai), and subsequently, in April, it was stated that Li-Hung-Chang had memorialised the Empress-Regent regarding the peace with France, the preliminary treaty of Tientsin being concluded in the following May.¹ About the middle of June, Li Fong Pao came to me with a map of China, asking that I would show thereon the proposed railways. This I did as well as possible on the spot, but the ambassador gave me no clue as to his sudden request. Ten days later, however, the *Times* published a telegram from Peking to the effect that the restriction as regards railways was cancelled, and that the Tsung-li-Yamen had asked the dignitaries to consider the question favourably. Li Fong Pao had therefore presumably been also instructed to this effect.

By the end of July, 1884, I had completed my scheme dealing with coast defences from Tongking to Corea, and the most important land defences. All localities adapted for naval purposes were included; the naval headquarters of the Southern fleet being fixed in the Samsah Bay, and that of the Northern fleet in Kiao-Chou Bay, and finally I drew up a complete though general scheme for harbour improvements and defences at these places. (See Pl. 8.)

Besides harbours, the scheme dealt with the fortification of Canton, the mouths of the Canton river in the South, the Taku and Petang in

¹ France waived her claim to indemnification on account of the war in Tongking, and undertook, by the treaty of peace, to leave the nominal suzerainty of Annam and Tongking in the hands of the Emperor of China, in return for which China bound herself not to disturb the French in Tongking, and open up the provinces bordering on Tongking, viz., Yunnan, Kuangsi, and Kuantung, to trade.

Chi-li, and the defences of Tientsin and Peking in the North, giving general proposals for the same.

After being translated into Chinese, the work (consisting of two folio volumes with 55 maps and plans) was sent in the autumn of 1884 to China, but what further was done in the matter I cannot say, Li Fong Pao having been recalled. It is however, certain that my proposals reached the hands of certain German officers, who were employed in China in the autumn of 1884, when it was anticipated that war would break out with France owing to the violation of the preliminary treaty of Tientsin, and the bombardment of Fuchen-fu, and that one of these officers, an engineer, visited Kiao-Chou, and expressed a most favourable opinion as regards its value for defensive purposes. Nothing further was, however, done. Only recently the *China Gazette* has stated that Li-Hung-Chang reported to the Throne, in 1892, that Kiao-Chou was admirably adapted as a naval base. At the same time he requested permission to commence the construction of fortifications and a railway to the coal mines in the vicinity. This request was granted, and General Tschang (who has now handed over to the German authorities) was nominated commandant of Kiao-Chou, with orders to construct batteries.¹ In 1894 Li-Hung-Chang himself inspected Kiao-Chou, and ordered the construction of a dock, which was, however, stopped, owing to the Japanese war. The matter is said to have then dropped until Russian designs to obtain Kiao-Chou Bay again aroused the Chinese Government. Several mandarins were sent there, and after a long consultation, in September, 1897, the construction of new defences in place of the old batteries was decided upon for the spring of 1898.

All this has, as I have stated, only recently come to light. Meanwhile, since 1885, things had taken a different turn for me, Li Fong Pao's degradation having apparently been accompanied by the disappearance of my scheme.

Consequent on the repeal of the law against railways, various European banks and commercial firms applied for railway concessions. At the request of one of these companies, I had, in 1885, drawn up a big railway scheme for the whole of China, including 34 maps and plans. I explained to the representatives, during the first conference, on 10th December, that the greatest difficulties presented themselves as regards railway construction, but that the construction of defensive works and harbours would be far more favourable. I pointed out the innate dislike of the Chinese to railways, their superstition, etc., whereas fortification was an idea with which they were familiar from time immemorial, and that they were keenly interested in the construction of naval bases. I specially demonstrated the immense importance of coming to some agreement with Government regarding land at Kiao-Chou, so as to eventually acquire a German naval base.

This appeared to me of such importance that I wrote a letter on the subject two days later. As the delegate of the firm would probably

¹ Found on the landing of the Germans.

reach Shanghai in the winter, and could not reach Tientsin before the Pei-ho was free of ice, I recommended their obtaining the support of the German Government, an examination being meanwhile made of Kiao-Chou Bay, by a German vessel from the East Asiatic station, with the delegate on board, and that I should be put in communication with the Admiralty directly this was to be carried out. No reply was, however, received.

On the 18th December, when visited by a leading member of the firm, I repeated my proposal most forcibly, but without any result, and my connection with the railway question was therefore very limited. I attached my memorandum on Kiao-Chou Bay and the defence of Taku and Petang, Tientsin, and Peking, to the other papers which had been given to the delegates, in order that they might be in a position to consider the matter should they find railway concessions impracticable, and the company had decided to submit my memorandum, and plans, to the German ambassador (von Brandt) in Peking, but this was never done.

The efforts of the delegates during 1886 having proved the correctness of my views, I made a fresh attempt to direct their attention to my proposals, and accordingly published, at the beginning of December, 1886, these two memoranda for translation into Chinese and communication to the persons concerned in Tientsin and Peking.

These memoranda are, therefore, to a certain extent, an extract from the larger ones of 1884 and 1885, more especially as they deal with Tientsin and Peking, and the northern portion of China. For this reason also they are of special interest to us.

The dissolution of the company, however, rendered the work impossible.

I need only remark that Kiao-Chou Bay left me no peace, and least of all when Colonel Liebert was about to undertake a mission to Peking, in November, 1896, and frequently applied to me for information. His unprecedented nomination as governor of West Africa was, therefore, a fresh disappointment, but it is to be hoped the last in this direction.

MEMORANDUM I.

RAILWAYS AND FORTIFICATIONS IN CHINA.

1.—INTRODUCTION.

When, during the Tongking development, the Chinese Government were busily engaged in preparing to meet a French attack, China's friends in Germany expected that a stout resistance would be offered to the French. When experience, however, proved that neither army, navy, defences, nor railways were available to cope with a war, or could be supplied within reasonable time, the actual outbreak of hostilities was viewed with no little anxiety. In short, it was known that should the French decide on a campaign, the capital itself was in danger.

It must, therefore, be regarded as fortunate for China that peace was concluded before the French put forth their whole strength, and decided to attack Peking.

Time was gained, and it was hoped that the opportunity would be seized to supply all the requirements for a successful defence of the Empire. These expectations have, however, strange to say, never been realised. Since the time when the Chinese Government were said to have contemplated building railways two and a half years have already passed without anything in this shape having been commenced, and moreover the capital still remains defenceless.

With the momentary disappearance of danger there appears to be no emergent need for preparation, and it does not seem to be realised by the Chinese in how short a time matters may develop, or how long it would take to complete the fortifications and railways required for the defence of such a vast country. The most important of these, at least, should be commenced without delay, and I will now show what these are:—

2.—FORTIFICATIONS AND RAILWAYS IN CHI-LI NECESSARY FOR THE DEFENCE OF PEKING.

A glance at the map, as also a study of history, shows us that Peking can be easiest attacked from the sea, and it is therefore especially important that an adequate fleet and defences should exist in this locality. The length of the coast-line is however so great that it would be practically impossible to prevent an enemy landing at some point. On the other hand, there is no great danger in certain isolated spots only being occupied, and the enemy having even penetrated into the interior. China would certainly never be compelled to conclude a disadvantageous peace by this means, whereas with Peking at the mercy of the invader he could dictate what terms he liked.

This is the residence and headquarters of the Royal Family and Government, whence all orders are issued to the various viceroys and provincial governors. With Peking in danger and the Emperor compelled to abandon the tombs of his ancestors, the whole army and nation would be convulsed, and anarchy and dismay would reign supreme throughout the length of the land.

Every possible means must be taken to preclude such a possibility, rendered as it is even greater by the geographical position of Peking. On the other hand, nature has provided the means of the danger being overcome, if only the requisite measures are taken.

Winter in the province of Chi-li being so severe that the ice on the rivers and on the roads is never melted till about the middle of March, no hostile army could attempt the feat before the end of that month, and in the middle of November the frost sets in again. If therefore an enemy had failed to reach Peking in the interim, he would be driven back to his ships. If he desired to winter on land he would be cut off from all communication with the fleet, and could not receive his supplies or ammunition. An army would soon suffer from want and sickness, and

if attacked by overwhelming masses of Chinese troops would have no means of escape. In any case, the campaign would be a failure unless Peking were occupied before winter had set in. If Peking could have been defended only for a few weeks in 1860, the French and English would have had to retire without attaining their object.

The measures adopted for the defence of Peking must be, therefore, so directed as to keep an enemy in check during the summer, and primarily, therefore, the city itself must be strongly fortified, and this compared with other proposals for its protection is by far the simplest, cheapest, and most effective. This is, however, of course not all that is required. An enemy must be prevented from getting as far as Peking, and the approaches to that city must therefore be defended, including the most important points along the same, and places on the coast near which bodies of the enemy might land. The ancient forts themselves demonstrate that their constructor appreciated the necessity of completely protecting this city centuries ago; but the events of 1860 showed that the existing works were altogether insufficient when attacked by a modern arm, and more especially by modern guns. The old circular wall is too narrow on the top to take guns and protect them with breastworks. The existing earthworks give no protection, and if shelled the splinters would prove most dangerous to the garrison. The whole wall can be seen and shelled from a great distance, and that too without heavy ordnance. Once these walls were breached, the assault would be an easy matter. The old wall must therefore be entirely replaced.

Further, to adequately protect the interior buildings (palace, etc.) from bombardment, a circle of forts should be erected at such distance from the city as to prevent the enemy getting their artillery within range of it. These would have to be not less than 20 li (10 to 11 kilometres) distant from the palace, and not more than 7 to 8 li ($3\frac{1}{2}$ to 4 kilometres) distant from one another. Their exact position would, however, be determined by the configuration of the ground. To the west, for instance, they would have to be pushed forward to the hills, 30 li (15 to 16 kilometres) distant from the city, as they could not be constructed in the plain under the hills. Steps should also be taken to prevent the Imperial Palace and Gardens of Wanshoo-Shan, Yu-Chuan-Shan, and Hsiang-Shan, as also the Camp of Tsang-lung-Chiao and the Temple of Bada-Chou falling into the enemy's hands.

Had a strong circle of forts existed in 1860, the English and French would never have been able to destroy the Summer Palace at Yuen-hein-Yuen.

By an extension of such a circle, the further immense advantage would be gained that Peking could not be invested by the enemy, since they could not concentrate a sufficient force before the city. The Emperor and officials could thus remain in communication with the provinces, as in peace-time, even supposing that a hostile army were operating on one side of the city.

If Peking were, therefore, defended as suggested, it could never be captured, for it could be neither assaulted, bombarded, invested, nor

starved out, and moreover a regular siege or investment would be out of the question, as there would not be enough time for an enemy to land, defeat the Chinese army, and then bring up heavy siege trains and commence operations before the commencement of winter. The Emperor and the Government could thus remain undisturbed in the capital.

The defence of Peking is thus the main point in the protection of the Empire and the Imperial dynasty.

All other measures of security are of less importance, but, as already stated, the enemy must be held in check as far as possible on the lines of approach, which are as follows :—

1. From the mouth of the Pei-ho, and Petang-ho through Tientsin and Tung-Chou.
2. From Manchuria (Mukden) through Shan-hai-kwan and Tung-Chou.
3. From Mongolia, through Si-feng-kou, Ku-pei-kou, and Nankow.
4. From the south, the roads from Tsi-nan-fu and Kai-feng-fu.

The greatest danger is to be apprehended from the coast, more especially in the vicinity of Taku, Petang, and Shan-hai-kwan, where an enemy might land with a view to an advance on the two first-named roads; of these, the more important is that running along the Pei-ho, being the shortest route to Peking, and because the mouths of the Pei-ho and Petang-ho would permit of communication being retained between the fleet and the army, and because the Pei-ho would form an excellent waterway for the transport of supplies, ammunition, etc., and could even be utilised for bringing up the heaviest siege guns.

Fortifications already exist at Taku and Petang, but it is very doubtful if any of them fulfil modern requirements, being formed out of obsolete earthworks, and having been constructed in a great hurry. It is more especially necessary to fortify the land side so that they could not be taken in rear (as in 1860). The garrison would have to hold out until reinforcements arrived from the interior. The defences of Taku and Petang must be therefore improved on some well-defined scheme.

Besides this, Tientsin must be fortified. The old walls which encircle the inner city and the earthwork built by San-ko-li-tsin in 1860 round the suburbs is now valueless, and the detached forts recently built on the side towards the lower Pei-ho are inadequate. The city must be made into a big fortress, with a strong wall all round as a protection against an assault, and a circle of detached works as a security against bombardment, or investment. Thus, not only would the Pei-ho and the roads leading to Peking be blocked, but the large quantities of supplies within the city would be secure. The Chi-li army would be completely protected within the circle of forts, and yet able to advance between them at any time. The enemy would not dare to leave Tientsin on the flank when advancing to Peking, as his retreat to Taku would thus be cut off. He would be therefore obliged to take Tientsin first, and this operation would occupy

so much time and take so many troops, that a siege of Peking could not be commenced the same year. Only in the case of Peking being unfortified could he advance direct, with a view to defending himself there, and forcing the Emperor to make terms.

To utilise the second main-road leading to Peking, the enemy would be obliged to land near Shan-hai-kwan, where there are already some coast batteries. Whether they are effective remains to be seen, all that is known being that they were rapidly constructed when war with France was threatening. It is worthy of special note also that a landing could be effected not only at Ling-hai between Shoal Point and Creek Point, but also to the south-west in Shallow Bay, and at Liu-cha-Shwang, and that therefore the whole of this portion of the coast would have to be well fortified, and the roads from thence to Peking effectively blocked. For the latter purpose it would be most advisable to fortify the defile to the west of Funing-Shien, or perhaps Yung-ping-fu could be made into a fortress with detached forts, thus making an entrenched camp here like the one at Tientsin. To secure the road from Mongolia, it would be sufficient to have a few detached forts, as a second road from Shan-hai-kwan meets the one from Si-feng-kou at San-tun-ying, and both could be simultaneously blocked by a fort to the west of San-tun-ying, between that place and Tsun-hua-chou.

As regards the roads from Ku-pei-kou and Nankow, forts could be constructed at the most suitable points in the hills.

There is less danger from the roads leading to Peking from the south, although that an attack from this direction is possible was proved by the Tai-ping rebels in 1854, when they advanced to the neighbourhood of Tientsin; and it might occur again if, for instance, an enemy had occupied the Shantung Peninsula.

If Tientsin were well fortified on this side also, it would still further add to the security of Peking. Besides this, there are the streams running from the hills to Tientsin near Pao-ting-fu, which would form a line of defence, the points where the roads cross them being strongly fortified, viz., those from Tsinan-fu and Kai-feng-fu.

Yet with all these proposed fortifications, etc., a defence of the province of Chi-li would be difficult without railways, even supposing that an attack was anticipated from the coast alone. But if, as is possible, France and Russia made a combined attack, the Russians might advance from the land side, and then the problem would be even more difficult.

Assuming that an advance was being made only from the coast, it would remain doubtful until the last moment as to the exact spot chosen. The enemy might for example concentrate near the island of Sha-lei-tien and feign preparation for an attack on Taku and Petang. Then under cover of darkness their fleet might steam away and appear at day-break before Shan-hai-kwan. Or perhaps the fleet might anchor at the mouth of the Luan-ho, land troops, draw off the Chinese forces from Petang and Shan-hai-kwan, and then make the real attack at one of these two points. Two strong forces would have to be permanently at these two points, since it would be impossible to follow a hostile fleet from point to point,

or bring reinforcements up to any required point rapidly enough, without the assistance of railways. Without these, the Taku and Petang and Shan-hai-kwan armies could never render mutual assistance nor be adequately reinforced from the interior, more especially from Peking and Tientsin.

There are thus three lines required viz. :—

1. From Peking *via* Tung-chou and Tientsin to Taku and Petang (since constructed to Taku).
2. From Tientsin *via* Kaiping to Shan-hai-kwan (a railway has now been built to Kaiping and Shan-hai-kwan, unfortunately not from Tientsin, but from Petang).
3. From Tung-chou to Kaiping.

With these railways and telegraph lines, it would be sufficient to garrison the fortifications at Petang and Taku, and near Shan-hai-kwan, merely keeping small bodies for immediate defence of the coast, while the main army of Chi-li was retained in Tientsin and the Imperial troops in Peking, until it was absolutely certain where the enemy would really effect a landing. For since the landing preparations for disembarkation would occupy several hours after anchoring, and the coast batteries must first be silenced, troops could easily be brought up from Tientsin and Peking in time to prevent a landing, or fall upon the first troops landed with overwhelming numbers.

Taku and Petang could be reached from Tientsin in 2 hours at the outside, by rail, even with heavy military trains. From Peking to these points would take 5 or 6 hours; from Tientsin *via* Kaiping to Shan-hai-kwan, 8 hours; from Peking to Shan-hai-kwan, 10 hours, and this at a speed not exceeding 30 kilometres (18 miles) an hour. With smaller trains, any threatened points could be reinforced with even greater rapidity, and in any case with the aid of these 3 lines it would be possible for the whole of the Chi-li troops to be in position to meet any attempt at landing.

At the same time, it should be noted that these lines must be constructed between the above points on certain principles. From Peking to Tung-chou the line should run north of the canal between the two cities, so as to be protected from an enemy advancing from Tientsin. Further, it should be well covered by the defences of Peking and detached forts. At Tung-chou, the line should branch, in one direction to Kaiping, and in the other to Tientsin, following the right bank of the Pei-ho to the latter place, where it would cross the river on the north side of the city, thence leaving the river and running direct to Sin-ho. From thence it should branch to the right to Taku and to the left to Petang.

The line from Tientsin to Shan-hai-kwan should run towards Lutai (or Ning-ho-shien) north of the streams between the Pei-ho and Petang-ho, and thus being protected against any attack from troops landing in the vicinity of Taku and Petang. After running south of the hills from Kaiping to Luan-chou, the line should traverse the valley of the Luan-ho to Yung-ping-fu and thence through the pass west of Funing-shien to Shan-hai-kwan. It would thus not follow the coast too closely east of

Luan-chou, and would further be protected by forts at Funing-shien or by fortifying Yung-ping-fu.

Instead of a line from Tientsin direct *viâ* Lutai (or Ning-ho-shien) to Kaiping, the one from Tientsin to Petang might be extended up the Petang-ho (Tshan-ho) to Lutai (or Ning-ho-shien); but this again would be a mistake, as, once landed near Petang, an enemy could interrupt communication between Tientsin and Shan-hai-kwan, and then might even himself utilise the line from Petang to Kaiping, and thence to Peking. Besides this, on reaching Kaiping, he could obtain coal for his fleet at Petang, and stop the coal supply for Tientsin, and also that for the troops and gun-boats on the Pei-ho, and at Taku.

A railway should therefore be built, not from Kaiping to Petang, but from Kaiping to Tientsin.

The railways above advocated would protect the province of Chi-li from an attack from the sea, and also facilitate the defence of Peking against an attack from the northern, or Russian, frontier, enabling the troops on the coast and at Tientsin, to reach Peking in 8 to 10 hours.

The enemy should not, however, be awaited there, but should be attacked as near the frontier as possible and on the road to Peking, and it would therefore be of the greatest advantage to have a railway from Peking *viâ* Nankow to Chang-kia-kou (Kalgan).

The construction of forts at suitable points in the hills along this route has already been advocated, and if a railway existed it would suffice to merely keep these forts garrisoned in the ordinary way, pushing small bodies, cavalry more especially, towards the frontier, to watch the enemy and ascertain his movements. It would be unnecessary to maintain a big army permanently on the frontier where it would be extremely difficult to bring up supplies and ammunition, etc.

Whilst the enemy were kept occupied with the forts, troops could be sent up north by rail, the journey from Peking to Chang-kia-kou only occupying from 8 to 10 hours, and the northern army being thus easily supplied with all requirements.

Lastly, there are two lines necessary to protect Peking against an attack from the South: one from Tientsin and one from Peking to Pao-ting-fu. The first-named would be merely an extension of the line from Shan-hai-kwan through Tientsin to the west as far as the hills, and running along the lake and marshes near the Tung-ting-ho. The importance of adequately fortifying and defending the crossings of the river has been already alluded to. Since it will, however, be impossible to anticipate the real point of attack, it will be of the greatest advantage to have a railway behind the river, and thus be able to reinforce any given point as rapidly as possible.

If the main body of the Chi-li army held the entrenched camp formed by the detached forts around Tientsin, troops could be despatched from thence, not only as already shown to Taku and Petang, but also to the west in the direction of Pao-ting-fu. The position of Tientsin is therefore eminently of strategical value for the defence of Chi-li, with the aid of railways.

The second line required for defence against an attack from the south would generally follow the Imperial road, and would enable reinforcements to be brought from Peking to the right flank of the southern defensive line in six hours.

Looking now, generally, at the railway systems which I have advocated, we find that Peking is the main centre; that further, a railway would run along the whole of the defensive line towards the south-east, from Shan-hai-kwan, *viâ* Tientsin, to Pao-ting-fu; Peking would be connected with both flanks and the centre of this line, at Tientsin, a point projecting from Tientsin towards the most important points of attack, Petang and Taku, and lastly, the rear would be defended from an attack from the Russian frontier, by the line from Peking to Chang-kia-kou.

3.—FORTIFICATIONS AND RAILWAYS REQUIRED FOR THE NORTHERN FLEET AND PROTECTION OF THE SOUTHERN APPROACHES TO PEKING.

The foregoing works and railways supply the requirements of the defence of the province of Chi-li and Peking by the army, but they need supplementing in two ways.

In the first place, Peking being most threatened from the sea, the Northern fleet is of great importance; whilst secondly, as Northern China does not produce all the supplies for the population and the army, a defence would be impossible, if the approaches from the south were neglected. Fortifications and railways, without which neither the fleet could exist and operate, nor the approaches to Peking be secured, are therefore indispensable. The first-named I have dealt with separately in Memorandum II., where it is proposed to retain Port Arthur and Wei-hai-Wei merely as stations and supply depôts for the Northern fleet, the main naval base being in Kiao-Chou Bay, and the coal supply being secured by railway connection with Tsi-nan-fu.¹ This would further assist in the transport of supplies to Peking. In peace-time, since the neglect of the Imperial Canal, these supplies are carried from the mouth of the Yang-tse-kiang, and other harbours further south, by sea to Taku and Tientsin. For three months in the year, however, this route is blocked by the ice on the Pei-ho, and it would therefore be an immense boon, even in ordinary peace-time, if Peking were connected with a harbour free of ice all the year round. This is to be found in the Kiao-Chou Bay, and to connect it with Peking it would only be necessary to supplement the line from Kiao-Chou to Tsi-nan-fu, and Tientsin to Peking, with a third line from Tientsin to Tsi-nan-fu.² This would be of special value in case of war. Should, for example, an enemy declare war at the commencement of spring, the supplies shipped to Peking and Tientsin in the previous autumn would be nearly exhausted, and without a railway they could not be replenished, as the sea route would be lost on the outbreak

¹ Germany has meanwhile obtained a concession for this railway.

² A concession has been requested for this line also.

of war. On the other hand, if Peking were connected by rail with Kiao-Chou, no matter at what season war broke out, supplies could be brought from the south in large quantities, even when operations had commenced. Meanwhile it would be impossible to foresee how long the war might last, and supplies for Peking could only be secured under all circumstances by railways from thence to the Yang-tse-kiang, protected from hostile attacks. These are two in number, viz. :—From Tientsin *via* Tsi-nan-fu to Chin-kiang-fu,¹ which can, however, only be utilised as long as the enemy have not taken the fortifications at the mouth of the Yang-tse-kiang. These fortifications would therefore be important, not only for the purpose of keeping the enemy out of the Yang-tse-kiang and thus preventing the north from being separated from the south, but because they would also protect the transport of supplies for the north from Chin-kiang-fu. They must be, therefore, carefully examined as to their strength, which is of vital importance. Even so, however, they may not be absolutely impregnable, and their fall means that connection with Peking from the south is interrupted, without a second line much further in the interior. This line must therefore be built as far as possible to the west, along the foot of the mountains bordering the plains. The first portion has already been made, viz., from Peking to Pao-ting-fu already mentioned, and this should be extended through Kai-feng-fu to Hankow on the Yang-tse-kiang.² The construction of these two lines for the transport of supplies from Peking (to Chin-kiang-fu and to Hankow) is of special importance inasmuch as they are both portions of the main lines required for the general defence of the Empire.

4.—PRINCIPAL RAILWAYS, AND DEFENSIVE WORKS GENERALLY.

(See Pl. 7.)

If the above railways and fortifications are carried out, the Emperor, the Dynasty, and the Government will be rendered secure in Peking. There are, however, other measures necessary, the most important of which are those having for their object the defence of the coast, and provinces bordering on Tongking and Russia.

As already explained, the difficulty of coast-defence lies in the fact that a hostile fleet can move about rapidly from place to place, whereas an army can only move slowly, and would therefore have to be in considerable force at many different points; and the only means of removing the difficulty lies in the construction of railways, by which a large force could be concentrated at any threatened point with the utmost rapidity. A line must therefore be built extending at least from Shan-hai-kwan to Canton, so as to protect the main portion of the Empire from an attack from the sea. Fortunately, a great portion of the railway will exist in the shape of the lines from Shan-hai-kwan to Tientsin, and thence to Chin-kiang-fu, and there will remain, therefore,

¹ A concession was demanded also for this line, but objected to by Germany, who has not only the monopoly of railways in Shantung, but has received a concession for portion of the line in question, viz., from Tsi-nan-fu to Yi-chou.

² This is now to be carried out.

only the portion from Canton to Chin-kiang-fu. The river valleys should be utilised as far as possible, and the line should be built so far inland as to be out of range of artillery from the sea, or to incur the possibility of being attacked by small parties of the enemy who might have landed, and it must be connected by small branch lines with the most important harbours liable to attack. The line should, therefore, run from Chin-kiang-fu through Su-chou-fu to Hang-chou-fu, with a branch to Shanghai and Wusung; from Hang-chou-fu to Ning-po, with a branch to Chin hai, and from Ning-po to Canton with a branch to Wen-chou, Fu-chou, Amoy, and Swatou.

I have already pointed out where fortifications are necessary in connection with this line north of the Yang-tse-kiang, as also the fact that the fortification of the mouth of that river is of great importance. To the south the harbour towns must be protected, but above all Canton, the mouth of the Canton river, and its tributaries.

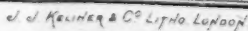
This coast-line cannot, however, be absolutely secure under all circumstances. At some points it runs very near the coast, more especially on the Yang-tse-kiang, where the enemy could entirely interrupt communication, as soon as he had captured or silenced the forts at the mouth of the river, and brought his ships up. The two wings of the great defensive line would then be disconnected. It is therefore necessary that the line from Tientsin to Canton should run in a curve covering a distance about $1\frac{1}{2}$ times the distance between these two cities, while it may be of vital importance to bring troops from one wing to the other. For it is easily conceivable that operations might be chiefly confined to the south-west (near Tongking) and in the Chi-li Province (Peking being the objective), and therefore a large body of troops might be required to be concentrated in both places, victory depending entirely upon the ability to bring an overwhelming force into the field at the enemy's real point of attack.

A central line is therefore also required, which should be safe from interruption by being built further inland, and which would further connect Peking with the southern parts of the Empire by the shortest possible route. This could be accomplished by merely extending the Peking-Hankow line to Canton.

Should the alignment between Kai-feng-fu and Hankow or Hang-chou and Canton through the hills prove too difficult, a circuitous route might be followed to the west through the river valleys, the first portion through Sin-yang, and the second portion through Kwei-lin.

The latter would run up the Si-Kiang valley and would be met by the coast railway from Canton to Yun-nau, and a branch line should also run from Si-kiang along the Yu-kiang valley to Nan-ning, close to the Tongking frontier. Troops could thus be brought up rapidly from all parts of China and even from Peking to meet a possible French advance.

Several lines are also required towards the Russian frontier, more especially where the Russians have built or are building their own railways. There is already a line from the Caspian to Askabad and Merv, and Charjui on the Amu-Darya, and this is to be extended without delay



through Bokhara to Tashkent, whence it may be continued round Eastern Turkestan *via* Semirechensk, eventually reaching the Kansu Province and the towns of Urumtsi and Hami.

A second line is also partially opened from Samara through Ufa to Zlatoust, and thence through Omsk and Semipalatinsk to the Chinese frontier, and this will likewise probably be extended to Kansu, meeting the first-mentioned railway at Hami.

A third branch line is contemplated from Omsk through Krasnoyarsk to Irkutsk and Kiakhta, and thence towards Peking.

Lastly, the Russians will attempt to penetrate Manchuria, the home of the Imperial Dynasty, starting from Irkutsk, passing through their coast province, and eventually reaching Corea.

It is impossible to ignore the fact that Russian railways will soon reach the Chinese frontier. They have only taken a year-and-a-half to build the Trans-Caspian line from Kizil-Arvat to Charjui, and its extension to Tashkent would probably take even less time. It may therefore be assumed that the lines to Semipalatinsk, Irkutsk, and Vladivostock will be completed far more rapidly than was anticipated, and there can be no manner of doubt that these lines are seriously contemplated.

In October (1886) the papers announced that the Governors-General of Siberia and the Amur region had been summoned to St. Petersburg to consider these questions and receive instructions relating thereto. China should, therefore, take immediate action, and construct the following lines:—

1. A western railway through Sian-fu and Lan-chow-fu to Su-chow and the Shan-hai-kwan gate of the Great Wall, or better still through Hami to Turfan or Urumtsi. As feeders to this line two railways should be built from the great central (Peking-Canton) line, from Wei-huei-fu and Hankow to Sian-fu.
2. The line from Peking to Chin-kia-kou (Kalgan) should be extended in a north-westerly direction to Urga.
3. The line from Peking (or Tientsin) to Shan-hai-kwan should similarly be extended through Kinchou, Niu-Chuang and Mukden to Kirin, the Shan-hai-kwan—Niu-Chuang portion also serving the purposes of coast defence.

The points requiring to be fortified can only be ascertained on a closer acquaintance with the country affected. The main object would be to fortify mountain passes leading towards Tongking, Turkestan, Western Siberia and the Russian coast province, the termini of the railways at any of these points being paid special attention to.

5.—CONCLUDING REMARKS.

Summarising the whole question, we find that the following are the most important railways and fortifications required by China:—

1. The fortification of the Capital itself, to protect the Emperor and the Government in Peking; a small railway system and

fortifications in the Chi-li Province extending from Taku to Petang, and from Liu-cha-shwang to Shan-hai-kwan; Tientsin to be fortified, and forts to be built to the west of Fu-ning-shien, and also in the hills on the routes leading to Mongolia; bridge-heads defending the passages of the Tung-ting-ho; Port Arthur, and perhaps Wei-hai-Wei, to be improved and made into naval stations of the second class only; the main naval base to be made at Kiao-Chou, with a railway to Tsinan-fu to secure the coal supply from Shantung; lastly, to ensure the provisioning of Peking and the Chi-li Province, two railways to the Yang-tse-kiang, to Chin-kiang-fu, and to Hankow.

2. For general Imperial defence a line along the coast, from Shan-hai-kwan to Canton, with branches to the principal harbours and a central railway from Peking (*via* Hankow) to Canton, with four lines radiating towards the Tongking and Russian frontiers.

Fortifications along the coast (beside those in Chi-li and the harbours) for the protection of the mouths of the Yang-tse-kiang and the Canton rivers (the gates of China), Canton, and the most important harbours of the Southern fleet to be specially cared for, and, lastly, forts to be built on the frontier to defend the mountain passes and protect the railways.

To delay these measures would be dangerous in the extreme.

It is easily understood that China would, more especially as regards her railways, prefer to use her own material, but it would be the greatest folly to wait until the rails could be manufactured; besides which there are a great number of other things which can only be made by skilled workmen and engineers, whilst thousands of well-trained officials would be required to work the lines if they were to be of any real use in time of war.

What would have happened if the viceroys of former years, during the trouble with France, had waited until the Chinese had learnt how to make their own guns, breech-loaders, mines, torpedoes, etc.? Railways are, however, also war material, and those that I have proposed are no less important than other engines of destruction. The latter can be secured from Europe at short notice, whilst railways will take many years to complete on the scale proposed.

Similarly, serviceable fortifications cannot be constructed in a hurry. To fulfil their object in war they must be skilfully planned during peacetime, and China would be well advised to possess models or patterns of these and of railways for future guidance.

By carrying out the most important work, viz., the defence of Peking, China's greatest danger would be overcome, and she might then quietly and steadily complete the other defences and railways required throughout the Empire.

Let, therefore, the fortification of Peking and the railways thence to the Pei-ho, and from Tientsin to Kaiping and Shan-hai-kwan, be com-

menced at once, the Chi-li coast and Port Arthur defence being at the same time looked to and improved to the utmost, a main naval base being constructed in the Kiao-Chou Bay. It only requires the assent of the central Government and the Viceroy of Chi-li. Upon their prudence hangs the fate of the Emperor, the Dynasty, and the Empire.

MEMORANDUM II.

SHOWING THE HARBOURS, CONNECTING RAILWAYS, ETC., REQUIRED
BY THE NORTH CHINA SQUADRON.

1.—INTRODUCTION.

As Peking, owing to its position, is most liable to attack from the sea, the Northern fleet (or Pejang squadron) is of the greatest importance for the defence of North China.

China has already two naval depôts for the Northern fleet, one at Port Arthur and the other at Wei-hai-Wei, neither of which is however suitable for a large naval base.

2.—PORT ARTHUR.

Port Arthur undoubtedly possesses many favourable conditions. Its position at the entrance to the Gulf of Pe-chi-li, is eminently adapted to the defence of the gulf, and the mouth of the Pei-ho; the entrance being narrow (only 400 metres=328 yards) is easy to defend, and the harbour is protected from the weather.

There is, however, a comparatively small area of deep water for big vessels, and this is close to the entrance, so that a fleet anchoring here could be seen and would be within range from the open sea. To deepen the bay would be exceedingly difficult and costly, and would take a great deal of time, the bed being extremely hard and firm. Even were the bay of sufficient depth all over, it would not be large enough to hold a numerous fleet. Owing to the narrowness of the entrance (the channel for big vessels is said to be only 35 metres=40 yards wide), no fleet could move in and out with ease. In retiring, therefore, before a superior hostile fleet, great danger would be incurred and a few ships could render the exit a most difficult matter. Hence this harbour could be rendered practically useless for coast defence, in addition to which during two months of the winter it is ice-bound. This would not be an insuperable difficulty if the harbour were intended merely for the defence of the Pe-chi-li Bay and the mouth of the Pei-ho, for since the ice remains longer at the latter place than at Port Arthur, the Chinese fleet could always get away from the latter before an enemy could successfully attack the mouth of the Pei-ho. A smaller number of vessels, intended merely for the protection of the coast in the Pe-chi-li Gulf, might be left at Port Arthur, but the main body of the Northern fleet must be available at any moment to co-operate in the defence of the coast further south, which, owing to the climate, is open to attack all the year round, and more especially so when an attack is rendered impossible on the Pe-chi-li coast owing to the ice. To have the whole of the Northern fleet ice-bound

in Port Arthur in the winter would be a great mistake, and therefore it is unquestionably not adapted as a main naval base.

In addition to this there are hills all round the harbour, which prevent the erection of arsenals, workshops, etc., and ship-building could never be carried out on a large scale. Just as the natural conditions of the place, which nothing can alter, are opposed to its becoming a harbour of the first class, so it would be equally difficult to fortify or defend the place both from the sea and from land.

The small depôts and buildings, etc., at the eastern side of the bay are said to be even visible from the sea, and even if this were not so the hills to the south and east could give no protection against a cannonade, more especially at long ranges; and a bombardment is the more to be feared at this point as a hostile fleet could easily take up a position within range almost in three-fourths of a circle from south to east, whence (more especially from the east) they could enfilade the entire length of the bay. To be secure against an attack of this nature, not only must the entrance to this bay be fortified, but the whole coast would have to be protected with numerous batteries, and even so the heaviest guns would not render a bombardment impossible, since the enemy could remain as far from the coast batteries as was safe for their ironclads, and yet keep within range of the interior of the harbour.

Port Arthur is very much exposed to an attack from the land side. The bays on the west and north coasts of the Kwan-tung Peninsula could always be used in calm weather for landing small bodies for an attack on the harbour, whilst Talienwan Bay, only two days' march from Port Arthur, would admit of the landing of a whole army.

The English in 1860, before the Peking Expedition, concentrated nearly 100 vessels here, and landed the whole of their forces, and there is therefore little doubt that Port Arthur is in considerable danger from this point if the place possessed sufficient inducement to an attack by land.¹ It would, therefore, be insufficient to only defend Port Arthur on the coast. The harbour would require to be protected by an impregnable earthwork against an assault, and by detached forts against a bombardment by land batteries or a regular siege.

Lastly, communication from Port Arthur with the rear is a most difficult matter, as a glance at the map will show. Coal can only be brought in by sea, and therefore with safety only in peace-time. All the available approaches by land are most circuitous, and in the event of an attack by sea reinforcements coming by land could not arrive in time. A railway might be built to obviate this difficulty, but it would have to follow the coast so closely that it would never be safe. It is worthy of special note that just north of Talienwan Bay (between Hand's Bay in the north, and Kin-Chou Bay in the south) there is an isthmus, scarcely 18 miles broad, where an enemy, having landed in the bay, could immediately establish himself, cutting off all communication between Port Arthur and

¹ It was for this reason that coast batteries at Talienwan were suggested. These appear to have been since constructed (but only by the Japanese after ending) at the end of October, 1894, at Hwa-yuan, to the east of Talienwan.

the continent, and entirely preventing reinforcements coming to the beleaguered garrison of Port Arthur.¹

From the above it will be clear that Port Arthur could never serve as anything more than a small harbour and supply depôt. As such it is eminently suitable, owing to its position at the entrance to the Pe-chi-li Gulf. It could be sufficiently well fortified without much difficulty, as an enemy would not exhaust his strength on an attack. Whether the existing defences are good enough remains to be seen.

3.—WEI-HAI-WEI.

This is a fine harbour with plenty of accommodation, but almost entirely exposed to the East and North-East winds, and a large fleet could, therefore, never find shelter from stormy weather. It was on this account that the English Admiral Hope abandoned Wei-hai-Wei Bay as an anchorage in 1860. There is only one small bay ("Junk's Anchorage") which appears to give sufficient protection to vessels.

At ebb-tide, moreover, the harbour is only deep enough for vessels of a medium size (up to 6 metres = 19½ feet), 5 fathoms being only found near the open sea. An enemy could therefore almost entirely overlook the whole of the interior through the wide channels on either side of Liu-kung-tao Island, and every movement of the Chinese fleet could be watched. Nor is there any point on the shore on which a depôt, etc., could be built out of sight, the only site available, besides the inner coast of Liu-kung-tao Island, being about 2 kilometres (1½ miles) north of the town of Wei-hai-Wei. This again is so near the western entrance that an enemy could get within easy range from the sea.

These facts would alone suffice to demonstrate the unsuitability of the locality as a main naval base, but in addition to this it could only be fortified with great difficulty to adequately resist an attack both by land and by sea. On the latter side there are two broad entrances, whilst on the land side, only some 4 miles away (as, for instance, at Yung-cheng) small bodies could be easily landed, and at Chi-fu, only a day's march distant, a whole army could be comfortably disembarked;² indeed, the French did this in 1860. To reinforce the Wei-hai-Wei garrison would, on account of its position at the very end of the Shantung Peninsula, be a matter of extreme difficulty, and would entail the construction of a long line of rail, more especially with a view to keeping up the coal supply.

Wei-hai-Wei may thus be considered as unsuitable for a main naval base, though it, again, might serve as a small depôt and station, both the entrances being fortified. The defence of the place by land would mean very extensive and costly fortifications round the whole bay.

In any case it would be inadvisable to spend much money on Wei-hai-Wei until Port Arthur is converted into a naval base of the first class, and for this China has the best place in the world, the Kiao-Chou Bay.

¹ It thus follows that the value of Port Arthur is greatly dependent upon Talienwan Bay and the isthmus to the north.

² The Japanese landed their troops there, some 20,000 men, between the 19th and 22nd January.

4.—KIAO-CHOU BAY. (*See Pl. 8.*)

The interior of the bay is completely protected from the wind, and so spacious that, notwithstanding the sandy nature of the coast, the largest fleet in the world could anchor in more than 5 fathoms of water (30 feet). There is even a larger area of water within the 3-fathom line which is sufficient for vessels of medium draught, and the anchorage is very good. The bay only freezes partially even in a severe winter, and that never near the entrance, so that vessels would probably never be prevented from going in and out. The narrowest part of the entrance, between Cape Evelyn and Yu-nui-shan, being 3,000 metres wide, a large number of ships can move comfortably alongside one another, and be still further protected by batteries on either shore. Even in the outer portions of this bay, quite close to the open sea, vessels can lie quite comfortably under cover of Cape Evelyn. The inner bay is completely out of sight of an enemy at sea, owing to the mountains along the coast, and the curve of the coast-line to the north between Yu-nui-shan and Chi-po-san.

The sand on the shores of the inner bay is certainly a disadvantage, but it is probable that the basin could be easily improved by simple dredging, as the sand apparently all comes from rivers, and the sand thus obtained would be of great value in raising the level of the surrounding land. It would be best to construct this basin, as well as the depôt, arsenals, magazines, docks, etc., on the east side of the bay north of Woman's Island, where the 3 and 5-fathom lines are nearest the shore. This site is near the entrance, and yet far enough from the sea to be out of danger from a hostile fleet if adequately protected by shore batteries at suitable points.

Woman's Island itself can also be used with advantage for the defence of the harbour. By utilising the dredged sand and blasting the rocks round about, the island can be enlarged, levelled, and connected with the eastern shore by means of a dam. The basin will then be closed to the south, and space obtained for the erection of buildings, etc. The basin should also be closed on the north side by a dam extending from the shore to beyond the 5-fathom limit, enabling the largest ships to reach the harbour comfortably. The harbour could be deepened at will towards the land.

As shown on the plan, a commercial harbour should also be constructed, as soon as thought desirable, to the south of the proposed naval station. For the defence of the outer entrance into the harbour it would suffice at first to construct two batteries (*a* and *b*) on Cape Evelyn and Yu-nui-shan, with submarine mines between them.

The value and importance of the harbour as a station will determine later the extent to which it should be further strengthened. Batteries could be constructed at *c*, *d*, and *e* to provide more guns to flank the mines, and batteries could also be constructed on the projecting points on the northern shore and on Pile Point (*f*, *g*, *h*), so that an enemy would be under fire before reaching the mines. Torpedo-boats could lie comfortably outside the bar in the bays on the northern shore, protected



PLAN
OF
KIAO-CHOU BAY,

SHOWING THE PROPOSED HARBOUR & FORTIFICATIONS
1883-4.

BY
REINHOLD WAGNER.

A, PERMANENT WORKS.
Z, Z, PROVISIONAL WORKS.

VIEW FROM B. (W. OF HORSESHOE ROCK)
TUNG-LAO-SHAN.



GAO-SHAN

+329 HORN-HILL

MIDDLE POINT

PORT-PT

LOSHAN HARBOUR

FAO TAO-TAN

STEEP I.
114 FT.

CHUEN-SI-SAN

LUNG-SHAN

SIAN-KUNG-TAN

A
TAI-KUNG-TAN

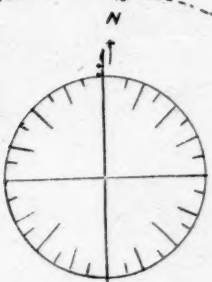
VIEW FROM A'



CAMEVELYN

CHI-PO-SAN

YU-NUI-SAN



METRE
29
(SH FEET)

by the batteries *c*, *f*, and *g*, and ready to attack the enemy's ships when advancing on the bar. A second fleet of torpedo-boats could also lie inside the bar near Cape Evelyn, in the Tsui-shan Bay, to attack any vessels that had succeeded in penetrating beyond the bar.

Behind this first bay, Bay Rock forms an excellent position for heavy guns in armoured turrets. These would not only command the passage between Cape Evelyn and Yu-nui-shan, but could be directed against the rear and flank of any ships that had entered and attempted to move north into the inner Kiao-Chou Bay. The latter could be closed by a second line of submarine mines between the north-eastern corner of Chi-po-san Island and the hills projecting north of Yu-nui-shan, under cover of batteries at *k*, *l*, *m* as shown.

With this object also, the battery *a* on Yu-nui-shan should be constructed so as to fire in all directions, and turrets would therefore be of special value here. Although the distance between batteries *a* and *k* is 500 metres less than that between *l* and *m*, it would be preferable to lay the submarine mines in the inner entrance between the latter batteries. If both the inner and outer mines were connected with the battery *a*, the enemy would merely have to silence batteries *a* and *l* in order to force the passage through both lines, whereas if the second line of mines is connected with battery *m*, it would still be well protected even if battery *a* were silenced, being further back and more under cover.

The mines would also be protected between *l* and *m* from the interior of the bay, to the east, just where an enemy would endeavour to penetrate and force the entrance into the harbour.

As in the case of Bay Rock, where a battery would defend the mines closing the outer entrance, a battery would be advisable at *n*, on Horse-shoe Rock, behind the mines closing the inner passage, the position being a most favourable one for keeping the deep-water channel under fire at close range.

It should be ascertained whether the channel, which is dry at ebb-tide, between Chi-po-san and the western continent can be traversed at flood-tide by gun-boats and torpedo-boats. The passage to the west of Chi-po-san would of course be protected by the batteries at *e*, *i*, and *k*, but another dam should, if necessary, be built between Chi-po-san and Crane Point, to prevent the possibility of the second line of mines being circumvented by smaller vessels.

The defences of the entrance to Kiao-Chou Bay would thus be so strong as to absolutely prevent a hostile fleet from penetrating to the inner harbour, and an attempt would certainly therefore be made to destroy the harbour buildings by a bombardment from the sea. For this purpose a position would have to be taken up opposite the coast to the south of Nubble Hill. The points projecting southwards at this place are, however, 6 kilometres ($3\frac{3}{4}$ miles) from the basin, and the batteries *f* and *g* assisted by that at *h* (on Pile Point), would still further prevent an approach to the western portion of the land in question by an additional 2 to 3 kilometres ($1\frac{1}{4}$ to $1\frac{3}{4}$ miles). It would therefore be only necessary,

as may be seen from the map, to construct 2 more batteries at *o* and *p* which would keep hostile vessels more than 4 nautical miles still farther to the east from the position occupied by the docks, arsenal, etc., round the harbour basin.

A bombardment from the sea would thus be useless. Even if the enemy succeeded in passing the outer mines, he could not successfully bombard the harbour unless he had penetrated the inner line. The vessels lying behind the latter could, if necessary, withdraw out of range, without even entering the harbour, there being 5 fathoms of water for some 8 to 9 kilometres to the north-west, whilst there are 3 fathoms in the same direction for about 11 kilometres, and to the north for more than 14 kilometres or nearly 8 nautical miles.

The only possible alternative would be, therefore, an attack by land. In the first place an attempt might be made to assault and carry the harbour direct by landing troops further to the east and out of range of the batteries at *p*, as, for instance, in the bay between "Fort Point" and "Middle Point" (Loshan Harbour), or on the east coast of the Peninsula north of the Loshan Hills, if there are suitable points for landing. The harbour-buildings, etc., should therefore be protected by a simple fortification, something like that shown in the plan, but one impossible of assault.

If prevented thus from capturing the place, an enemy might then attempt to take the batteries covering the passage into Kiao-Chou Bay, in the rear, with the object of thus opening the bay for the fleet, and attacking the harbour from the water. The batteries should, therefore, be closed in rear, and, as they are as close as possible to the shore, and therefore low down, they are overlooked and commanded by the surrounding hills. The latter, therefore, must also be fortified, small impregnable forts with light guns being sufficient for the purpose.

To protect the coast batteries to the east of the entrance against an attack in rear, two such forts should also be constructed at *q* and *r* on Nubble Hill and Lung-shan, and two forts at *s* and *t* on the heights of Wang-kung-shan, and "Observation Point" on Chi-po-san, for the defence of the battery at *n* on the opposite side of the passage. These two latter are most important, more especially the one at *s*, as the batteries on Chi-po-san and Cape Evelyn and Pile Point, are isolated and could not be rapidly reinforced from the harbour, whilst their capture would involve the most serious consequences.

If an enemy landed further to the south-west, crossing to Chi-po-san at ebb-tide, and simultaneously advancing across the Wang-king-shan range to the Ti-tung-shan Hills, the batteries *b*, *d*, *e*, *h*, *k*, and *l* might fall at one blow, and this would not only render the inner and outer mines powerless from the one side, but the enemy could use the heavy guns in the captured batteries to engage the Bay Rock battery and the batteries *f*, *c*, *a*, and *m*, on the opposite shore from (*g*), including the Horse-shoe Rock defences, thus opening the bay for the fleet, and even rendering a bombardment of the harbour itself possible.

It needs no explanation to show that Observation Point is the only place for the fort *t* on Chi-po-san, but the choice of a position for the fort *s* lies between the Ti-tung-shan and the Wang-king-shan. If placed on the first-named heights, it would certainly prevent the batteries at Cape Evelyn and Pile Point being attacked in the rear; but there is another point to be considered, which I will shortly explain, which argues in favour of its being on the Wang-king-shan, which is, moreover, higher than the Ti-tung-shan. An enemy might land heavy guns and construct batteries for the bombardment of the harbour from the land, and would obtain a greater range than from on board ship, as guns cannot be given so much elevation in the latter case, and heavy guns on land could fire up to 11 kilometres (about $6\frac{3}{4}$ miles). To meet this contingency, therefore, detached forts should be pushed forward, the natural features of the land around Kiao-Chou Bay being most favourable, and rendering it possible to attain the object with a very limited number of such forts. To the west and north-west, the bay extends so far that no gun could reach the harbour, Crane Point (the nearest point) being 11 kilometres ($6\frac{3}{4}$ miles) distant.

The construction of batteries for a bombardment on Chi-po-san would be prevented by the proposed fort at *t*; further south, the extreme point of the small peninsula formed by the Siot-su-shan is 11 kilometres further distant from the harbour, but there is so little room for guns, and it is, moreover, under cover of the turrets on Bay Rock, that special forts at *x* and *y* would be unnecessary. Further south, only the fort *s* would be required to secure the Cape Evelyn and Pile Point batteries from being attacked in rear; it should be pushed forward to the Wang-ting-shan so as to keep the enemy beyond the 11-kilometre limit.

To protect the harbour from bombardment, therefore, detached forts would only be required on the east and north sides, and it would probably suffice if the two forts *u* and *v* were built on the height marked 1235, N.E. of the Lung-shan, and the height marked 1363, S.W. of Tung-lan-shan respectively. A more careful examination of the intervening ground will show whether any more forts should be constructed, and the same holds good as regards Potato Island to the north, where a fort would perhaps be required at *w*.

In the event of an attack by land, or a siege, the harbour in Kiao-Chou Bay could be easily and rapidly reinforced, owing to the fact that, unlike Port Arthur or Wei-hai-Wei, it does not lie at the extreme end of a peninsula but close to the heart of the country, and troops could be easily brought up from the Yang-tse-Kiang or the Pei-ho if it was found they were not required there, and that the enemy intended a blow at the main naval base, and the destruction of the fleet. Kiao-Chou is, of course, not so close to the Pe-chi-li Gulf as Wei-hai-Wei or Port Arthur; but then, on the other hand, no hostile fleet would attempt to enter this gulf with the main Chinese squadron ready for action in their rear at Kiao-Chou. They would, moreover, in order to attack the Pei-ho, have to have a second fleet strong enough to hold the Chinese fleet at Kiao-Chou in check.

For a direct defence of the Pe-chi-li Gulf, it would be sufficient to maintain adequate supplies in neighbouring depôts for the Chinese squadron in these waters. In the event of bad weather, or if attacked by an overwhelming force, they could seek shelter in some fortified harbour, such as Port Arthur or Wei-hai-Wei.

One great advantage of making Kiao-Chou the main naval base lies in the fact that the fleet can be easily supplied with good coal from the interior, and this is impossible at Port Arthur or Wei-hai-Wei. A short line of rail would suffice to the coal mines at Wei-shien, with an extension to Tsi-nan-fu,¹ the mines at Lin-chi-shien (Lintz), Po-shan-shien and Chang-kiu-shien being thus also opened up. A second line to Yi-Chou-fu and to Tsi-nan-fu on the main Peking-Chin-Kiang-fu railway would also open up the coal district in these parts.

The Kiao-Chou Bay is connected with the Pe-chi-li Gulf by means of the Kiau-ho Kiau-Lei-Nan-ho and Kiau-Lei-Pei-ho rivers. These waterways could probably be improved at a small cost, and might be utilised by even gun and torpedo-boats, which would then be enabled to enter the mouth of the Pei-ho by the shortest possible route, and proceed direct across the Shantung Peninsula. The importance of this in time of war can scarcely be over-estimated, whilst it would also be a most useful route in peace-time for the coasting trade from Southern China to Pei-ho.

Lastly, it should be noted that the establishment of a base at Kiao-Chou would be of the greatest service not only to the fleet but to an army. By fortifying the harbour the place would be converted into an entrenched camp, which would be of the greatest value in a defence of the country.

No portion of the Chinese Empire, with the exception of some of the provinces bordering on Russia, can be so easily acquired by an enemy as the Shantung Peninsula. With Kiao-Chou undefended, nothing would be easier than to land an army there and take up a defensive position straight across the peninsula to the Pe-chi-li Gulf, in rear of the waterway referred to above, and thus sever it from the interior. Its recapture would be most difficult, whilst the enemy could make use of it to prepare for a further advance, as was done at Chi-fu in 1860.

If, on the other hand, Kiao-Chou Bay is well fortified in connection with the harbour, not only is the most exposed position of the Shantung Peninsula protected, but an enemy could be easily expelled by an army supported by this fortress. No invasion of the country could ever be attempted without the capture of Kiao-Chou.

CONCLUSION.

As stated in the Introduction, these Memoranda were written more than ten years ago, the portion relating to Kiao-Chou as far back as November, 1883.

They were, moreover, written in the interests of China, because at that time the development of the country under the ægis of Li Hung

¹ Now to be built by Germany.

Chang gave reason to hope that China might become a valuable ally of Germany.

I need now no longer hesitate to submit them to the public, since the possession of Kiao-Chou Bay (having been effected by treaty) is not thereby compromised.

The papers are only interesting from a theoretical point of view, everything I have proposed or written resting purely on theory, never having visited the localities under discussion. The events of the last decade, more especially the Japanese war, and the fact that the railways constructed or under consideration are the very ones which I mentioned as important, go far to justify the correctness of my views, although it would of course be now obviously wrong to suppose that I hold to everything contained in the above memoranda, written solely in the interests of China herself. Circumstances have most materially altered in many respects. I will therefore merely add a few observations on the cession of Kiao-Chou Bay to Germany.

In the first place, it will give a considerable impetus to the railway question. Whereas, formerly, the railway connection between Peking and the Yang-tse-kiang and Canton, besides the Chi-li lines, were of first importance, the proposed lines from Kiao-Chou are now of greater value, with a view to opening up the coal districts of Tsinan-fu and Yi-Chou-fu, not only for the German fleet but for traffic in Far Eastern waters generally.

Secondly, Kiao-Chou Bay, as the gate of European industry, implies the further opening up of the country to the west, across the Huang-ho to the proposed great central railway from Peking, through Hankow, to Canton. To this end a line should be constructed from Tsi-nan-fu through Tung-chang-fu and Taming-fu to Changte-fu, which I proposed in 1884 (see Pl. 7), but which I referred to, in No. 1 Memorandum, as being of minor importance.

The line should be continued westwards from Wei-huei-fu through Honan-fu to Siar-fu, and eventually perhaps might even run to Lan-Chao-fu and Sin-Chao-fu, through Hami, Semipalatinsk and Tomsk, forming a future European Chinese Berlin-Kiao-Chou Express Service.

The possession of the Bay itself is important in a different sense from what it was formerly. The proposed commercial harbour would eventually extend considerably to the south, or else be transferred to the northern side of the main harbour. But to make this a main naval base for Germany (on the lines proposed for China) cannot be thought of; and whilst it would have been necessary in the case of China to convert the place into a fortified position, there is no necessity for us to do so. The safety of the German Emporium must be primarily attained by closer relationship with China, who should on their part count it as fortunate that such an important position has fallen to a friendly Power. At the same time it must not be forgotten that owing to the inability of the Central Government to maintain their authority in the provinces, disturbances not unseldom occur which are fraught with danger to foreign colonies. To ensure the steady development of German trade, etc., it

behoves us to practically guard against such dangers when the friendly attitude of the Chinese Government and our own peaceful intention will avail us nothing.

To ensure the peaceful development of harbour and station, it will however suffice to construct defensive works round the buildings with a view to prevent any sudden incursion by hordes of armed marauders, and with the aid of modern weapons this work may be of a fairly simple nature, mostly earthwork, for which labour can be obtained very cheaply. Anything further must depend upon the growth of the place and future developments.

Permanent fortifications are only required to protect the entrance to the bay, with a view to preventing a possible attack from the sea, and I stated in November last what measures I thought necessary in this connection,¹ viz. :—Batteries at Cape Evelyn, Yu-nui-shan, and on the north-eastern corner of Chi-po-san with intervening lines of mines, and armoured turrets on Bay Rock.

I am, of course, unacquainted with the intention of the Imperial Government. Considering, however, that even at Kiel the defences are confined to the mouth of the bay, they will scarcely fail to take the necessary measures for fortifying the entrance to Kiao-Chou Bay.

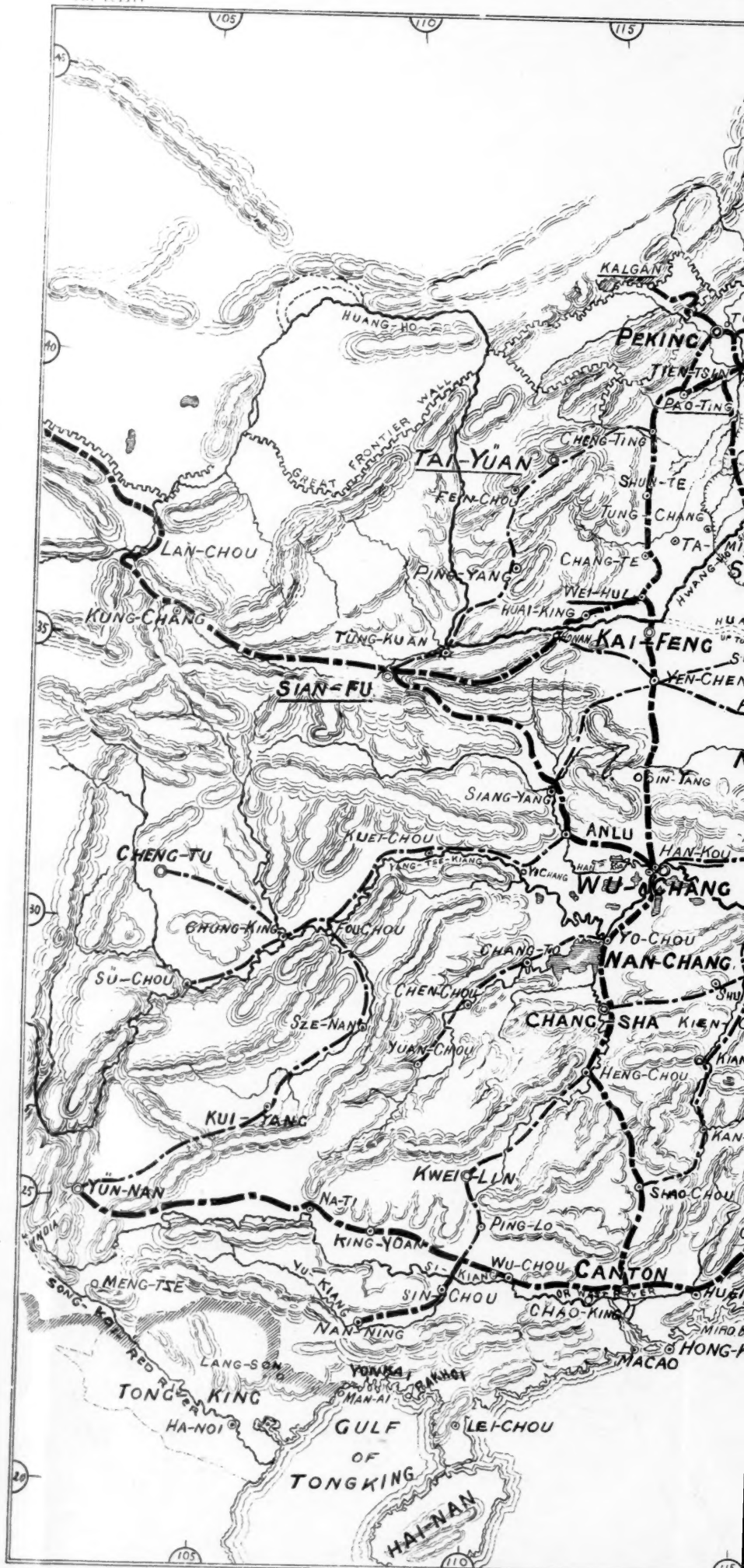
Although, perhaps, my proposals for the defence of China are now of no value, and may never attain to any importance, I trust that general interest in the matter may justify their publication.

The paper, as well as the accompanying maps, have been carefully corrected with E. Bretschneider's map of China, 1896 (the one consulted), which it is as well to have by in a study of the paper.

The following notes from the above map are also useful :—

Capital of a province or prefecture shown by	
the termination - - - - -	"fu."
Independent sub-prefecture - - - - -	"ting."
Department - - - - -	"chou."
District - - - - -	"nien."
Shan - - - - -	Mountain.
Ling - - - - -	{ Mountain pass or
	{ ridge.
"Kiang," "Ho," "Shui," "Ki," - - - - -	River.
Hu - - - - -	Lake.
Chang - - - - -	Town.
Chen - - - - -	Mart.
Pei - - - - -	North.
Nan - - - - -	South.
Tung - - - - -	East.
Si - - - - -	West.

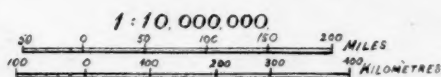
¹ *National Zeitung*, 21st Nov., 1897.





PROPOSED PLAN OF RAILWAYS FOR CHINA, 1884.

BY
REINHOLD WAGNER.



NAVAL NOTES.

HOME.—The following are the principal appointments which have been made: Captain—J. E. Bearcroft to "Rainbow." Commanders—F. H. Peyton to "Wanderer"; W. G. Van Ingen to "Partridge"; H. T. Hibbert to "Hebe"; H. T. Gedge to "Stork"; H. J. Davison to "Humber"; H. C. Kingsford to "Fearless"; C. W. Winnington-Ingram to "Daphne."

The new first-class cruiser "Diadem" commissioned at Portsmouth on the 19th for service with the Channel Squadron, but before joining the fleet she is to carry out a series of commissioned trials; she is first to have a 30 hours' preliminary trial at 3,300-I.H.P., and then a continuous run of 60 hours at the same power, when the steam expended in the auxiliary engines in use is to be measured, and, as far as practicable, the same information is to be obtained with regard to the main engines at intervals; at the third trial she is to steam for 60 hours at 8,250-I.H.P., and at the fourth trial she is to run for the same period at 2,500-I.H.P.; her final run is also to be for 60 hours, with the engines developing as large a proportion of the sea-going full power as practicable. The first-class cruiser "Blenheim" has left for China with new crew for the "Barfleur," and other reliefs for the station. The second-class cruiser "Rainbow" has been sent to Malta for repairs in consequence of the press of work in the home yards; she will probably remain in reserve there.

The shipbuilding work at Portsmouth Dockyard, which was seriously disorganised during, and for some time after, the dispute in the engineering trade, has at last resumed its normal condition. On the 23rd of last month the "Formidable," battle-ship, which is of the same category as the "Implacable" at Devonport and the "Irresistible" at Chatham, had 2,200 tons built into her, and as her first keel plate was laid down on March 21st she has thus advanced at the rate of 550 tons a month; material, however, is now arriving in such large quantities as to give employment to a thousand men, and it is hoped so to push forward the construction that the vessel may be launched before Christmas. The second and final consignment of machinery for the "Canopus," the pioneer battle-ship of her class, have also now arrived at Portsmouth; the boilers have been made at Greenock, and only await shipment to Portsmouth, and as soon as they are placed on board the completion of the ship will be expedited; already all her casemates with one exception are on board, and they have received their 6-inch Q.F. guns, which are mounted, while the four 12-inch wire guns have been delivered and are ready to be placed on board; the internal fittings of the ship are in so forward a state that as soon as the machinery is in place the dockyard officials will be able to propose a date for her trials, as there is now the reasonable probability of a speedy delivery of her side armour; three of these plates have already been fixed, and during last week six more were delivered from Sheffield; about 2,000 men are employed in completing the ship, but during the labour trouble very few hands were engaged, owing to the absence of material.

The new third-class cruiser "Proserpine" has successfully completed her steam trials. On her eight hours' full-speed trial under natural draught the results were as follows:—Pressure of steam in boilers, 255 lbs; air pressure, 9 inch; vacuum, starboard 26.4 inches, port 25.8 inches; revolutions, starboard 195, port 193.5; mean pressure in cylinders, starboard, high, 80.7; intermediate, 40.7; low, 17.2; port, high, 75.3; intermediate, 36.3; low, 19.7; I.H.P., starboard, high, 707.7; intermediate, 924.0; low, 1,046.5; port, high, 637.8; intermediate, 828.0; low, 1,190.7; total, 5,354.7; speed by the patent log, 19.7

knots per hour; draught of water, forward, 11 feet 7 inches, aft, 15 feet 1 inch. The H.P. was 354.7 in excess of the natural-draught requirements, while the speed was 1.2 knots above the estimate. At the four hours' forced-draught trial the results were:—Pressure of steam, 275 lbs; air pressure, 2.9 inches; vacuum 24.8; I.H.P. 7,146, giving a speed of 21 knots. At the 30 hours' coal-consumption trial, the results were as follows:—Pressure of steam in boilers, 235 lbs.; air pressure, .52 inch; vacuum, 25.7 inches starboard, 26.7 inches port; revolutions—starboard, 169.2; port, 168.3; I.H.P., 3,615.1 (1,754.4 starboard, 1,860.7 port); speed, 17 knots; coal consumption, 2.16 lbs. per I.H.P. per hour. The draught of water was 12 feet forward and 15 feet 3 inches aft. The results of the trial were considered satisfactory.

On the 5th ult. the first-class battle-ship "Ocean" was launched at Devonport, H.R.H. the Marchioness of Lorne performing the ceremony, which passed off without a hitch. Her dimensions are as follows:—Length, 390 feet; beam, 74 feet; load displacement, 13,000 tons; I.H.P. of engines, 13,500, to give a speed of 18.2 knots. The engines, of which the makers are Messrs. Hawthorne, Leslie, and Co., consist of two complete sets of vertical triple-expansion engines, having cylinders of 30 inches, 49 inches, and 80 inches diameter, and stroke of 4 feet 3 inches, in separate engine-rooms, each set capable of developing 6,725-H.P., with 180 revolutions. The boilers are of the Belleville type, 20 in number. They will be tested at 300 lbs. per square inch, the steam tension being reduced at the engines. The armament consists of four 12-inch 46-ton guns worked in two barbettes on revolving turn-tables; twelve 6-inch Q.F. guns mounted in armoured casemates, eight on the main deck, and four on the upper deck; ten 12-pounder guns, 12 cwt. each, six on the upper deck, four on the main deck, one in special mounting for field service, and one for boat service; six 3-pounder Hotchkiss Q.F. guns on recoil mountings; four Maxim machine guns, and four submerged torpedo-tubes for the discharge of 18-inch torpedoes. The weight of the guns, mountings, and stores is approximately 1,000 tons, the cost of the guns being £68,000, and of the torpedoes and torpedo-tubes £15,000. Provision has been made for a complement of 751 officers and men, and the coal capacity is 1,900 tons. The ship is one of the "Canopus" class, of which six in all are under construction. Further details with regard to armour, protection, etc., will be found in the Naval Notes of April last, where a full description of one of her sister-ships, the "Goliath," will be found.

According to the *Naval and Military Record*, the name "Ocean" has figured in the British Navy for at least a century and a half. The first "Ocean" traceable in the records of the English Navy was a second-rate battle-ship of 98 guns, carrying a crew of 750 men, and of the following dimensions:—Length of gun deck, 176 feet; extreme beam, 49 feet; depth in hold, 21 feet; and burthen, 1,833 tons. She is described as being "rebuilt" at Chatham from designs by Sir Thomas Slade, who was appointed Surveyor of the Navy in 1755. As Boscawen's fleet in 1759 set on fire a French ship of 80 guns called "L'Océan" and took her as a prize it is very probable that this first "rebuilt" "Ocean" of the English Navy was constructed from the remains of the French "L'Océan."

The second "Océan" was also a second-rate ship, of 98 guns, carrying a crew of 738 men and of the following dimensions:—Length, 186 feet; beam 51 feet; depth in hold 21½ feet; and burthen, 2,270 tons. She was built at Woolwich Dockyard in 1801 from designs by Sir John Henslow, who succeeded Sir Thomas Slade as Surveyor of the Navy in 1785. In 1821, at Devonport, she was reduced to an 80-gun ship and lengthened to 197 feet, with 2,290 tons burthen. It is not recorded in naval history that this second "Ocean" performed any special deeds, but mention is made of her as the flag-ship of Lord Collingwood in the Mediterranean of 1808, and again as one of the fleet which endeavoured to cut off the French before entering Toulon; while eventually she became guard-ship at Sheerness.

It is interesting to note that at the same period the French had an "Océan" of 120 guns, mention being made of her as the most formidable of the French fleets in 1799 and 1809. We also read that in 1804 an "Ocean," a vessel described as a 1,200-ton ship, formed part of an armed fleet of merchant-ships belonging to the East India Company, which defeated the French in an engagement.

The third "Ocean" was built at Devonport, and launched on March 19th, 1863. She was a wood steamship, armour-plated, and of the following dimensions, etc.:—Length, 280 feet; beam, $58\frac{1}{2}$ feet; depth in hold, 19 feet 11 inches; mean draught, 25 feet 8 inches; displacement, 6,700 tons; I.H.P., 4,250.—*Naval and Military Record*.

On the same day was launched from the Naval Construction Works of Messrs. Vickers, Sons, and Maxim, Limited, at Barrow-in-Furness, the first-class protected cruiser "Amphitrite." She is of the "Argonaut" class, and is 435 feet between perpendiculars, but the overhanging stern and projecting ram make the length over all 463 feet. The beam over sheathing is 69 feet, and her moulded depth to the upper deck 39 feet 9 inches. The mean load draught of the vessel is 25 feet 3 inches, at which draught the displacement is 11,000 tons. The hull is constructed of Siemens-Martin steel, the heavy external framing of the bow and stern, as well as propeller brackets and the rudder frame, being of phosphor-bronze castings. The double bottom is minutely sub-divided into water-tight compartments. The protection consists of an armoured deck of steel plating 4 inches thick at the crown, which extends the whole length of the vessel. The coal bunkers have a capacity of over 2,000 tons. The armament is as follows:—sixteen 6-inch Q.F. guns, twelve 12-pounder Q.F. guns, three 3-pounder Q.F. guns, two 12-pounder boat and field guns, and eight 45-inch Maxim guns. The "Amphitrite" is supplied with two under-water broadside torpedo-tubes. There are in all 41 guns, and in one minute these will be capable of discharging 6,898 projectiles, varying in weight from 100 lbs. downwards and totalling about $7\frac{1}{2}$ tons, while during the same period 3,854 lbs. of powder will be used. Every gun is either totally enclosed or shielded by nickel steel 6 inches thick, which has been proved to withstand attack by guns with an energy of 5,000 foot-tons without even cracking. There are five steam-steering positions, and hand-gear is also fitted aft under the protective deck. The propelling machinery consists of two sets of vertical direct-acting triple-expansion engines, each set having four cylinders working on separate cranks, the diameter of the cylinders being:—High-pressure 34 inches, intermediate $55\frac{1}{2}$ inches, and the low pressure 64 inches. The collective I.H.P. is expected to be 18,000 when running at about 120 revolutions per minute with a steam pressure of 250 lbs. The boilers are of the latest Belleville type, fitted with economisers, there being 18 boilers containing eight elements of seven pairs of large tubes and ten pairs of small. The total heating surface in the boilers and economisers is about 47,300 square feet, the grate surface being 1,390 square feet. The working steam pressure will be 300 lbs. to the square inch, reduced to 250 lbs. at the engines. She will steam 21 knots without resorting to forced draught. There will be four funnels placed in line fore and aft, the height of which will be about 90 feet above the fire-grate. The vessel will be lighted with electricity throughout.—*Times*.

The third-class cruiser "Psyche" was launched at Devonport on the 19th ult. Her dimensions are as follows:—Length, 305 feet; beam, 36 feet 9 inches; draught, 17 feet 6 inches; with a displacement of 2,200 tons. The engines are to develop 7,000-I.H.P., giving a speed of 20 knots, while the armament will consist of eight 4-inch and eight 3-pounder Q.F. guns, with two torpedo-tubes; the armoured deck is 2 inches thick.

On the same day was also launched from the yard of Messrs. John I. Thornycroft and Co., Chiswick, a torpedo-boat destroyer of a new type. The vessel, which is named the "Albatross," is 227 feet long by 21 feet 3 inches wide. This

is longer and wider than any destroyer yet built by this firm. The vessel is constructed of mild steel below the water line, the upper part being of a special description of hard steel, having a considerably higher tensile strength than the ordinary steel, thus allowing the scantling to be much lighter. The vessel in general respects is designed on the same lines as the other destroyers built by the Chiswick firm, but, of course, has more displacement in consequence of her larger dimensions. The armament will consist of one 12-pounder Q.F. gun and five 6-pounders. There are also two 18-inch torpedo-tubes on deck. The propelling machinery consists of two sets of three-stage compound engines, each having four cylinders. These are 22 inches and 33½ inches for the high pressure and intermediate pressure cylinders respectively, and 36 inches each for the two low-pressure cylinders, the stroke of all being 20 inches. These engines are of the Thornycroft balanced type which has been applied to all the recent destroyers built by this firm. Steam is supplied by three water-tube boilers of the "Daring" type. They will work at 250 lbs. pressure, this being an increase on former practice, 210 lbs. to the square inch being the maximum pressure hitherto employed on these vessels. At about 400 revolutions per minute the estimated H.P. will be 8,000 indicated, and this is calculated to give a speed of 32 knots, that being the guaranteed speed. The "Albatross," should she be tried immediately and come up to the expectations formed of her, would be the fastest vessel afloat, if we put aside the "Turbinia," which, however, is an experimental boat, and not built under the conditions imposed by the British Admiralty. The fastest destroyer now afloat is the "Desperate," constructed by the same builders. She made 31·034 knots on a preliminary trial of three hours' duration. Her length is 210 feet; and the engines developed about 6,000-H.P. On this trial, however, the full load imposed by the Admiralty contract was not carried, but the data are considered sufficient to show there will be no difficulty in getting the contract speed for the "Albatross" with the 8,000-H.P. It may be added that Messrs. Laird Brothers, of Birkenhead, are now constructing the "Express," another torpedo-boat destroyer, for the Navy, which is still larger than the "Albatross," and has a guaranteed speed of 33 knots. She was launched some few weeks ago, but without her machinery on board, whilst the "Albatross" was launched ready for steaming.—*Times*.

Oil fuel has at last been tried at sea for the first time in the British Navy at Portsmouth. Some months ago the Admiralty sanctioned an experiment with the system invented by Mr. Holden, of the Great Eastern Railway, on board the "Surly," torpedo-boat destroyer, and in the interval various trials have been carried out in one of the dockyard basins. At these the chief difficulty was to furnish a sufficient feed of oil, but this has been overcome by the provision of an overhead feed-tank. There are four boilers on the "Surly," two of which are still retained for coal fuel, but the others have been adapted for oil. In lighting the latter series the elements of combustion are oil and coal, but as soon as a sufficient heat has been generated bricks replace the coal and are heated from the oil spray. At the trial no difficulty was experienced in obtaining a sufficient spray, and the heat was so well maintained that at times the thermometer indicated 150° Fahr. in the stokehold. Three runs over the measured mile in Stokes Bay were made, and, while a speed of 16 knots was hoped for, the runs gave a mean of 14 knots; but, as this was only a preliminary trial, the result was regarded as satisfactory. The oil used had a flash-point of 280° Fahr.—*Times*.

A Parliamentary return, granted on the motion of Sir John Colomb, has just been presented to the House of Commons. It is a return of the number of commissioned officers, subordinate and warrant officers, petty officers, men, and boys of the executive branch, and other branches of the Royal Navy, borne on the 1st day of April, 1858, 1868, 1878, 1888, and 1898 respectively, excluding pensioners and reserves; and a similar return of the numbers of the commissioned, warrant,

and non-commissioned officers and men of the Royal Marine force. The following is the return in detail, so far as the figures of the British Navy stood on the 1st April, 1898 :—

Executive Branch.—Commissioned officers, 1,676 ; subordinate and warrant officers, including masters, assistants, and cadets, 1,782 ; petty officers, 6,324 ; men, 25,014 ; boys, 9,540. Total, 44,336.

Engineer Branch.—Commissioned officers, 845 ; subordinate officers, *i.e.*, engineer students, 196 ; warrant officers, 16 ; chief and other engine-room artificers, 2,498 ; stokers, petty officers, 3,853 ; men, 14,881. Total, 22,289.

Other Branches.—Commissioned officers, 857 ; subordinate and warrant officers, that is clerks, assistant clerks, and carpenters, 303 ; petty officers, 4,610 ; men, 6,151 ; kroomen, 483 ; boys, 412. Total, 12,816.

Royal Marines.—Commissioned officers, 396 ; warrant officers, 35 ; non-commissioned officers, 2,013 ; men, 14,655. Total, 17,099. Grand total for all branches of the Service, 96,540.

A COMPARISON OF FORTY YEARS.

The following figures are given in the return for each of the years already named, giving the totals on the 1st April in each year in the four branches of the Service which the numbers cover :—

	1858	1868	1878	1888	1898
Executive Branch	30,809	31,981	27,911	28,232	44,336
Engineer Branch	3,851	5,391	5,627	8,536	22,289
Other Branches	5,559	11,052	8,508	8,914	12,816
Royal Marines	14,919	15,970	13,727	12,847	17,099
Total	55,138	64,394	55,773	58,529	96,540

On the 22nd ult., the First Lord of the Admiralty introduced a supplementary ship-building programme, necessitated by the additional new ships being laid down by foreign Powers. It is proposed to lay down four more battle-ships, four more armoured cruisers and twelve torpedo-boat destroyers. We shall refer in our next month's Notes to the Parliamentary return lately issued, giving the relative strength of the fleets of Great Britain, France, Russia, Germany, Italy, and the United States, as amended by the additional programme announced.

FRANCE.—The following are the principal appointments which have been made : Vice-Admirals—J. Cavelier de Cuverville to be Chief of the General Staff of the Navy ; C. Sallandrouze de Lamornaix to be an Inspector-General of the Navy. Rear-Admiral—E. A. Maréchal to command of the 2nd Division of the Active Squadron of the Mediterranean Fleet. Capitaines de Vaisseau—L. H. Thomas to "Bruix" ; R. J. Marquis to "Duguay-Trouin" and command of Pacific Naval Division ; N. Kiéssel to "Masséna" ; P. R. Dufayot de la Maisonneuve to "Chanzy" ; E. P. Lormier to "Pothuau" ; C. M. Richard d'Abnour to "Latouche-Tréville" ; L. V. Marin-Darbel to "Magenta." Capitaines de Frégate—E. J. Perrin to "Galilée" ; M. J. De La Croix de Castries to "Cassini."—*Le Journal Officiel de la République Française.*

The repairs to the bottom of the first-class battle-ship "Hoche" having been completed at Brest, the ship has proceeded to Cherbourg, where she is to receive Belleville water-tube boilers fitted with economisers in place of her present cylindrical ones, and she will undergo general repairs, among the alterations to be carried out being the removal of another portion of her superstructure. The 24 hours' trial of the new first-class battle-ship "Charlemagne," which had been interrupted, were resumed at Brest on 2nd July with satis-

factory results; 9,300-H.P. was obtained, giving a speed of 16·4 knots, the engines making 112 revolutions; some trials were also made with petroleum stoking, but some further alterations will have to be made in the fittings; a curious mishap occurred when the "Charlemagne" was ready to enter the basin, it was found that the great heat had caused certain portions of the swing bridge to expand, so that it was impossible to open it, and the ship was delayed until the next morning, when the bridge having cooled during the night it could again be opened. The new first-class battle-ship "Gaulois" has successfully passed her first official consumption trial, developing 5,490-H.P. for an expenditure of 620 grammes (1·3 lbs.) of coal per H.P. per hour instead of an expected 700 to 750 grammes (1·5 lbs. to 1·6 lbs.); her engines are by the Chantiers de la Loire, and her boilers are of the Belleville type, fitted with economisers. The new sea-going torpedo-boat "Cyclone" has arrived at Cherbourg from Havre, where she was built; on the passage she maintained an average speed of 25 knots. The second-class cruiser "Chasseloup-Laubat" and the armoured gun-boat "Grenade" were commissioned at Cherbourg in the early part of last month, and employed for the instruction of the Reservists and others not embarked in the fleet for the manœuvres.

The second-class cruiser "Protet" was launched at Bordeaux on 16th July. She has a length of 101·20 metres (330 feet), beam 13·60 metres (45 feet), and 4,114 tons displacement. The hull is of steel, sheathed under water with wood and coppered. She will be provided with twin screws, triple-expansion engines, and water-tube boilers, the H.P. is to be 9,000, and the estimated speed 19 knots. She is armed with four 164-millimetre (6·4-inch) guns, ten 100-millimetre (4-inch), ten 47-millimetre, four 37-millimetre, and two torpedo discharge-tubes.

Vice-Admiral Fournier (Maritime Prefect of Brest) communicated the following note regarding the operations which were carried out at that port in the presence of M. Lockroy (Minister of Marine), concerning which various conflicting accounts have appeared in the Press:—

"The recent operations of war between the Americans and the Spaniards show that for the defence of a harbour it is not enough to have a number of well-placed guns unless suitable orders have been previously established for directing their fire on the enemy both by night and day. It is only after a long series of experiments and trials that such orders have been drawn up for regulating the defence of the French military ports, but as yet the range finders, telephonic communications and electric projectors recently installed in connection with these rules have not been tried under suitable conditions, the pointing of the guns having been only practised at targets towed at slow speed, consequently the data obtained may be found unreliable. It is to obtain this information in the most practical manner that the Maritime Prefect has applied to the Minister of Marine for permission to repeat the experiments once more with all the troops at their fighting posts, the enemy being represented by the Northern Squadron, which will attempt to force the pass of Brest in the usual formation of an attacking fleet, the batteries taking the ships of the squadron as their object."

It is very probable that one of the conclusions arrived at will show the necessity for considerably reinforcing the *personnel* of the gunners in the batteries.

The Minister of Marine witnessed the operations in person, accompanied by the Chief of the General Staff of the Navy, to show by his presence the interest he took in the defence of the port of Brest. The mobile defence of Brest was called out, and the troops, consisting of the 2nd Brigade of Marine Infantry and the 2nd Regiment of Marine Artillery, were under the command of Major-General Dodds.

The following details of the transporting bridge over the canal at Bizerta, a quite unique construction of its kind, are of interest:

On each side of the canal two lattice-work steel supports are erected 65 metres (213 feet) high, which is only 1 metre less than the towers of Notre-Dame, in Paris. Across these at a height of 45 metres (148 feet) is placed the bridge, on which runs a carriage worked by steam, somewhat similar to a transporting crane;

from this carriage is suspended a platform level with the roadway at either bank of the canal, on which all vehicles and cattle can embark with ease, which is then by means of the travelling locomotive on the bridge transported to the other side. Before the erection of the bridge the cross traffic was ferried over by lighters and launches, making as many as 174 crossings per day, the daily traffic amounting to no less than 6,882 pedestrians, 301 horses, 1,637 beasts of burden, and 165 camels, so that the saving of labour and the convenience will be considerable. The French training-ship "Iphigénie" has passed in and out of the canal several times, merely striking her top-gallant masts, for passing under the bridge.—*Le Yacht* and *Le Temps*.

THE FAST CRUISER "CHATEAURENAULT."

This fine vessel was launched on the 12th May last; she was constructed by the Forges et Chantiers de la Seyne, and has a displacement of 8,018 tons. From the first the intention has been to avoid giving the ship the man-of-war appearance so prominent in the American cruisers "Columbia" and "Minneapolis," particularly in the form of the bow and stern. The profile adopted (it is easily understood to what end) is strictly that of the mail-steamer. The straight stem, long run, overhanging stern, and pole masts, all combine to give the ship the pacific aspect of a large Atlantic greyhound. As regards sea-going qualities, the straight stem slightly inclined inboard, in the opinion of seamen, is an advantage for a ship destined to maintain a high speed, if necessary, against a head sea. The disadvantage which the form of bow has in limiting the depression of the bow gun has been overcome, to a certain extent, by lowering the upper deck forward on the "Chateaufrenault." This allows of the gun being placed far enough aft to obtain a solid base without compromising the strength of the structure forward by the re-actions of firing under a depression of about 5°, which is considered sufficient. The rudimentary pole masts are fitted with the necessary signal apparatus, and two fixed platforms at their lower parts for electric light projectors. There are 4 funnels as on the "Columbia"; the casings do not extend higher than within about 5 metres of their tops, thus saving useless top weights and gaining stability. In her cross sections the upper works "fall home" somewhat. The ship has a fore-castle and poop invisible from the exterior, the lines of the bulwarks being carried in an unbroken line fore and aft. During her construction the Marine Board decided to cover in the space between the fore-castle and poop by a shelter deck, very light and completely free, which should serve as a roof to the upper deck, permit the crew to sleep under it, and at the same time form a promenade deck, altogether a very elegant and relatively peaceful arrangement, very appropriate to the special mission the "Chateaufrenault" is designed to fulfil in time of war. The dimensions of the "Chateaufrenault," as compared with the "Minneapolis," are as follows:—

	"Chateaufrenault."		"Minneapolis."	
Length over all	139.45 metres (452 ft.)	...	—	—
Length between perpendiculars	135.0 " (442 ft. 10 in.)	...	125.08 metres (412 ft.)	...
Beam	17.0 " (55 ft. 9 in.)	...	17.72 " (58 ft. 2 in.)	...
Draught of water aft	7.40 " (24 ft. 6 in.)	...	7.10 " (22 ft. 6 in.)	...
Displacement	8,018 tons	...	7,505 tons on trials	...
			8,133 " maximum	...
I.H.P.	23,000	...	21,000	...
Full speed forced draught	23 knots (estimated)	...	22 knots (estimated)	...
			23.7 knots on trials	...
Coal bunker capacity	2,100 tons	...	1,518 tons	...
Armament	2-164.7 mm. (6.4 in.) Q.F.	...	1-203 mm. (8-inch)	...
	6-138.7 " (5.5 in.) Q.F.	...	2-152 " (6-inch) Q.F.	...
	10-47 " (3-pdr.) Q.F.	...	8-102 " (4-inch) Q.F.	...
			12-57 " (6-pdr.) Q.F.	...
			4-37 " (1-pdr.) Q.F.	...

The artillery of the American ship is therefore superior as regards the number of guns, but on the other hand the "Chateaurenault" is better provided with stores and coals. This would appear to be preferable for a ship of which the first requirements are speed and radius of action, and the latter in the case of the French ship is about 10,500 miles at 12 knots. In fact, such as it is, the artillery of our fast cruisers appears to be sufficient to give them the advantage over any auxiliary armed cruiser, and their speed to protect them against the cruisers of any enemy superior in armament and protection. The armament of the "Chateaurenault" is disposed as follows:—The two 164·7-millimetre guns are on central pivot mountings, one on the poop and one on the forecastle; six 138·7-millimetre, of which four are in redoubts on the upper deck forward and aft, and two on sponsons in the central part of the ship; while ten 47-millimetre are distributed above the redoubts and at the ends of the ship. All these Q.F. guns are served from magazines placed directly under them, the hoists being worked as we shall see later, either by hand power or electricity. As regards speed we know that the American cruisers have not fulfilled the expectations formed of them after their brilliant trial performances. For reasons which we have frequently explained in this journal, we are better secured in France against these discrepancies in trial and actual service speeds. We can, therefore, confidently hope that the "Chateaurenault" will have in reality a speed superior to that of any foreign ship of the same class. It would cause no surprise either if the estimated speed of 23 knots should be sensibly exceeded in the trials. The constructors of Les Chantiers de la Seyne are thoroughly capable, and it is satisfactory to know that the lines of the "Chateaurenault" have been studied by M. Lagane, so that we may be convinced their fineness and perfection will contribute to the highest possible success in the matter of speed. The propelling apparatus consists of three triple-expansion engines, each with its own propeller; the minimum power to be developed being 23,000-I.H.P. at about 124 revolutions per minute. The evaporative apparatus, which was originally intended to comprise boilers of the Lagrafel d'Allest type, will now be constituted of fourteen Normand-Sigaudy boilers with small tubes, divided into four unequal groups, three of four boilers each, and one of two right forward. The engine and boiler rooms will occupy about half the total length of the ship; the total weight is about the same as that of the "Minneapolis," 1,950 tons. The marked difference in the weights forming the displacement of these two ships lies in the protection and coal supply. The armour protection in the "Chateaurenault" is to that of the "Minneapolis" as 6 to 10; the coal supply, on the other hand, of the "Chateaurenault" is nearly double that of the other ship. This comparison confirms the impression that the French ship is more truly a corsaire than cruiser in the military sense of the word than is her American contemporary. The zinc boxes in the compartments of the cofferdams have been omitted by the order of the Board, and the cofferdams modified in consequence. The turtle-back armour-deck, which is 2·5 inches thick, has its centre about '95 metre above the water-line, sloping at the sides to 1·40 metres below it. The guns are protected by fixed redoubts and revolving shields, both 2 inches thick, as provided in the design. With the exception of the boat-hoisting gear, consisting of four steam winches of 3,000 kilogrammes, everything is worked by electricity, or by hand-power in case of injury, including guns, ammunition, steering-gear, etc. The electrical energy is furnished by four dynamos, of 80 volts 600 ampères, of which one can be held in reserve, the other three being quite capable to supply all services. There are twelve electric hoists for ammunition, distributed as follows:—Two for the 164-millimetre, six for the 138·6-millimetre, and four for the 47-millimetre guns. The electric steering gear can be worked indifferently from the bridge, conning-tower, or central position. There are also three electrical Rateau ventilators, three Peruisse order transmitters from the conning-tower to engine-rooms, and six projectors, control-

lable at a distance. These projectors are arranged, one on the platform on each mast, four surface-sweeping arranged lozenge-fashion; those on the beam and the one forward are on a moving carriage, the one aft and those on the masts of fixed pedestals. The dynamos also supply the current for the bow and position lights, lamps and reflectors for working at night, and about 450 incandescent lamps, from 10 to 60 candle-power each. We see, therefore, that there is a very large application of electrical power on board the "Chateaurenault." It is hardly necessary to add that in the matter of accommodation and comfort there is absolutely nothing to be desired; the ventilation has been well studied, and excellent conditions of habitability may be confidently expected. It was intended that the "Chateaurenault" should carry a rear-admiral and staff, but the idea has been abandoned. She will carry 2 superior officers, 15 junior, 10 cadets, 50 petty officers, 114 stokers, mechanics, etc., and about 500 bluejackets. The ship is to be completed by the 8th July, 1899, at Toulon, having been laid down on 23rd May, 1896. She was launched with her protective deck completed and her upper works well advanced. She will be completed by Les Chantiers de la Seyne with all despatch, and her construction will be a great honour to the firm.—*Le Yacht*.

PORTUGAL.—On May 5th the Portuguese cruiser "Don Carlos I." was launched from the Elswick shipyard of Sir W. G. Armstrong, Whitworth, and Co., Newcastle. Her dimensions are:—Length, 360 feet; beam, 47 feet 3 inches; draught (mean), 17 feet 6 inches; displacement, 4,100 tons. Armament:—Four 6-inch Q.F. guns, eight 4·7-inch and twelve 3-pounder Q.F. guns, four machine guns, and five torpedo-tubes (three submerged). The vessel is sheathed with wood and copper, and has a protective deck of 1½ inches on the flat and 4 inches on the slopes. She has a coal capacity of 700 tons, which may be increased to 1,000, and will be able to steam some 10,000 miles at a moderate speed without recoaling. Her estimated speed is 22 knots with forced draught and 20 knots with natural draught.

RUSSIA.—Vice-Admiral Makarov, in command of the Baltic Evolutionary Squadron, has transferred his flag from the battle-ship "Piotr Veliki" to the torpedo-cruiser "Abrek," that of Rear-Admiral Hessen having been hoisted instead on board the "Piotr." The squadron includes, in addition to the ships mentioned, the coast-defence ships "Admiral Ushakov" and "Admiral Seniavin," the "Admiral Chichagov," and torpedo-boats Nos. 106, 107, 109, 110, 115, and 116.

In the torpedo flotilla of the Baltic Fleet, experiments will be made this year in the carrying on of submarine mining defence in rough weather, and under other unfavourable conditions. It is rumoured that harbours of refuge will be established this year along the shores of the Baltic for sailing-vessels overtaken by rough weather.

The following speeds were attained on trial at the measured mile by some of the vessels of the squadron which has lately returned from foreign waters:—

First-class armoured cruiser "Admiral Nakhimov," at 82 revolutions both engines, 60 lbs. steam in boilers, draught 24 feet 5 inches and 27 feet 2 inches—13·7 knots. Battle-ship "Imperator Nicolai I.," at 85 and 87½ revolutions, 115 lbs. in 11 boilers, draught 23 feet 9 inches and 25 feet 6 inches—14 knots. First-class armoured cruiser "Hertsog Edinburgski," 60 lbs. steam pressure, 57 revolutions one engine, draught 17 feet 10 inches and 24 feet—12·08 knots.

In order to diminish the consumption of coal, the Belleville boilers of the battle-ship "Imperator Nicolai I." are to be fitted at the Franco-Russian Works with economisers. The whole of the 16 boilers will have a heating area of 2,341 square metres, and the square of the grate area will be 75, 96 metres. The heating surface of the economisers will be 679·77 square metres. The same works are to be employed to make separate issues from the stokeholds of the

nature of shafts, and issues for the smoke from the pipes and connecting pipes and the fitting of new boilers.

According to the *Novoè Vremya*, the Russian Government has ordered at the Forges et Chantiers de la Méditerranée, Havre, a new fast cruiser for the Baltic Fleet. A new slip is to be constructed for the laying down of ironclad ships at Revel. At Nicolaiev a new cruiser with a protected deck, of about 9,000 tons displacement, will shortly be commenced. The new first-class cruiser "Svietlana," built at the Normand Works at Havre, has reached Cronstadt. At Messrs. Creighton's works at Abo, another torpedo-boat of the type of the "Sokol" has been launched with engines and boilers complete. A new torpedo-cruiser, the "Amur," in process of building at the Baltic Works, is to have a speed of $17\frac{1}{2}$ knots, and is to be fitted for the laying down of torpedo harbour defences. Her length is 300 feet, beam about 40 feet, and draught $14\frac{1}{2}$ feet, I.H.P. 4,700.

The "Kniaz Potyemkin Tavrisheski," first-class battle-ship, building at the Nicolaiev Government Yard, is designed to have a displacement of 12,480 tons; length 471 feet, beam 73 feet, and draught 27 feet; her triple-expansion engines are to have an I.H.P. of 10,600, being supplied with steam from 14 boilers, and giving a speed of 16 knots; these and the machinery are supplied by the Baltic Works. At Sevastopol, the first-class battle-ship "Rostislav," which was recently launched, is near completion, and will make her trials this summer. The new Russian battle-ship ordered of the Mediterranean Ship-building Company at La Seyne, Toulon, is to have a displacement of 13,110 tons, engines of 16,300-H.P., and a speed of 18 knots; the armament will consist of 64 large and small Q.F. guns, including 26 Hotchkiss repeaters. The armoured cruiser which will be laid down at the same time will have a displacement of 7,600 tons, 16,500-H.P., and a speed of 24 knots; and her armament will consist of 37 guns of various calibres. Three torpedo-boat destroyers of 27 knots have also been contracted for. The *St. Petersburg Gazette* learns that the Ministry of Marine intends to order two steamers for supplying Port Arthur and Talienwan with provisions, to be so constructed as to be able to be used as auxiliary cruisers. The battle-ship "Petrovsk" is nearly ready for sea; the armour is in place, the guns mounted; the torpedo apparatus and electric lighting are finished in the mean; but some minor work in connection with the interior arrangements remains to be done.

Torpedo-boat No. 127, built at the Ijor Works, tried her engines on the measured mile at forced draught on the 30th June, but defects were developed in the engine, and the pressure of steam was uneven; her boilers are fitted for Mazut, the naphtha being pulverised by the steam from them; it was confidently hoped that she would attain a speed exceeding 21 knots, but on the first two trips not more than 20 knots was developed. Torpedo-boat No. 137 is to be sent to the Nevski Works for improvements in her torpedo apparatus, the fitting of a new valve to her central pressure cylinder, and improvements in the use of naphtha fuel, so as to enable her to attain the speed of 22 to 23 knots. It is proposed to construct at one of the Black Sea ports a dock for torpedo-vessels and the necessary plant for their rapid repair.

The dock at Vladivostok may be considered as now complete. The total cost has been three million roubles. The dimensions are:—Length, 550 feet; width, 90 feet; and depth at entrance, 30 feet. It is proposed to order at Philadelphia, of the Cramp Works, a battle-ship of 12,700 tons and a cruiser of 6,000 tons. The former is to have a speed of 18 knots with twin-screws. The latter, also twin-screw, and some 400 feet in length, is calculated for a speed of 23 knots. Both are to have Niclausse boilers.

The work of raising the "Gangut" has been somewhat interrupted, owing to the uneven ballasting of the submerged steamer, which is to act as counterpoise in righting the ship. Four steamers and two lighters are at present engaged in the work. The diving operations, for giving the right direction to the submerged

steamer are proceeding, though slowly. At the New Admiralty Yard there is now being prepared for the Diving School a camera for photographing under water. It is a cylinder 14½ inches in diameter and 17 inches long, closed at one end with a cap, and at the other with ordinary glass. The ordinary photographic apparatus, duly focussed, is placed in this camera, lowered by the diver into the water, and trained on the place to be photographed. The pneumatic closing gear is brought into play from the surface of the water by means of a specially constructed india-rubber tube. Electricity is used to supply the necessary light, and the communication with the diver is by telephone. It is proposed to use the apparatus during the present cruising season for submarine work on the "Gangut," and at the same time ascertain what improvements are needed.

In spite of the fact that most of the Russian men-of-war use English coal, the Wales coal strike has in no way interfered with the sailing of vessels either in home or foreign waters.

A total sum of 1,327,413 roubles 73 kopeks was expended by the Navy yards during 1897, which was divided as follows :—

	Roubles	Kopeks
New Ships	53,115	6½
Repairs	948,466	12
Supplies, New Machinery in Works and other		
Harbour Works	323,569	0½
Private Orders	2,263	53½

This included materials, labour, and percentage. The chief items in construction were the "Petropavlovsk," 11,430 roubles, and harbour launching 10,626 roubles. In repairs the chief items were :—"Piotr Veliki," 17,676 roubles 60 kopeks, "Gangut" 5,034 roubles 5 kopeks, "Admiral Greig" 13,181 roubles 81 kopeks, "Nie Trone Menia" 60,613 roubles, "Hertsog Edinburgski" 544,693 roubles, "Vladimir Monomakh" 46,959 roubles, and "Rynda" 22,723 roubles. Labour cost 348,322 roubles, or 54,214 roubles less than in 1896.

The "Nie Trone Menia" has left Kronstadt with the usual batch of engineer students, the party comprising 200 of them with 15 instructors. Their two months' cruise is apportioned as follows :—One week to make acquaintance with the ship, 6 weeks actually at sea (300 hours during which the engines are working), and the last devoted to their being examined by the committee. They are divided into 10 watches, each of which in turn is trained in the practical handling of all parts of the machinery and boilers. Their time is divided thus :—When under way, one watch for 3 hours at the engine, 5 engaged in theoretical instruction on deck, two acting as watches, and two attending to the needs of the ship. At anchor two are at the engine and in the stokehold learning to handle the machinery, five are employed on deck, another is engaged in handling the three steam launches, and two looking after the ship. When trained the party is to complete the engineer staff on board the newly-built ships "Osliabia," "Peresviet," "Diana," "Gromoboi," and some torpedo-boats.

The trial of the new Kizelgur, or method of tempering the heat by the use of infusorial mould, held at Nicolaiev, gave the following results :—A 4-inch steam conducting pipe was smeared a length of 10 feet with two layers of the Kizelgur in addition to a single layer of felt, the first layer 1 inch thick, and the other ½ inch. A thermometer so treated showed a temperature of 30°, while with the old Knoch method it was 35·5°; while a square foot of the new application cost 12½ kopeks, as against 37 kopeks for the Knoch. The cylinder valves for the highest pressure on both engines, on being treated with the two mixtures, gave with Kizelgur 42·5°, Knoch 54°. Thus the new unguent is superior to the Knoch as that was to all others.

An inventor of the name of Paidasi has produced for trial a hydraulic telemotor. The chain steering-gear has been shown to have far from satisfactory results, and it was suggested by Admiral Messer that possibly electricity might solve the problem. Various methods have accordingly been invented, but hitherto only adopted in Russia in merchant-ships and those of the Volunteer Fleet. The motive power is applied from the bridge, instead of the tiller, by means of hydraulic tubes filled with water mixed with 50 per cent. of glycerine to the steering compartment, where the steam valve of the steering engine opens automatically. This latter is enclosed in a hermetically sealed case, filled with grease. This case is placed on the tiller. As the engine works, it sets in motion a pinion, which runs over a jagged sector, secured so as not to move, and the tiller is turned from side to side. The automatic action consists in the fluid in the hydraulic cylinder, as it turns the handle of the telemotor, becoming compressed and by means of the tube producing a pressure on the piston of the hydraulic cylinder in the steering compartment. This piston acts by means of suction on the steam valve of the engine. In case of any defect in the working, there are various means of working the handle. The hydraulic power never fails to act, and in a man-of-war can be so fitted that in action when the fighting steering-wheel is used, the same hydraulic tube has a connecting gear with the wheel. In case of the breakdown of the hydraulic tube, which is exceedingly unlikely, the rudder can be set in motion by a machine from the hand steering-wheel in the same compartment and worked by the compass.

Communication between Siberia and the Black Sea.—The Vladikaokaz Railway Company, having completed the line from Tikhorietskaia to Tsaritsyn, propose a new line on a grand scale, covering some 1,000 miles, connecting Tsaritsyn, Orenburg, Orsk, and Cheliabinsk. The line already constructed has brought the cattle, meat, milk products, and grain of Siberia into extensive demand at Libau, Riga, and Revel, but great difficulty is experienced in bringing them by that route from Siberia. The line now projected will run from Novorossiisk to Tikhorietskaia and thence to Cheliabinsk, a total distance of some 2,250 versts (1,500 miles), and will be kept exclusively for the transport of Siberian products, which will find a suitable outlet to the Black Sea at Novorossiisk. This will necessitate the transforming of that port into an eastern edition of Odessa. The line will also enable the coals of the south to be carried to the Ural factories, and the metallic products of the Ural will in winter be able to be brought by Timmen and Cheliabinsk to the mouth of the Volga.

The import duties on iron ships when complete, and a variety of machinery and fittings of iron required for the shipping trade, will for the future be either wholly suspended or very materially lowered.—*Kronstädtski Viestnik.*

The third of the electric launches built by the Vril Company, St. Helens, Isle of Wight, for the Russian Government, was lately tried at Portsmouth. The launch is 32 feet long, has a beam of 8 feet, and a depth of 3 feet 8 inches, and has been built for the Russian Ministry of Marine for use on the large lakes in Northern Russia. She is built of double skin mahogany, and all the fittings are of gunmetal, nickel-plated. The machinery, which is designed on the Vril system, consists of a 7,000-watt motor, wheel controller, 40 accumulators fitted in water-tight and acid-tight ebonite boxes, intermediate shaft, tail shaft, and thrust block. There is also a compressed-air siren, as, owing to the noiseless movement of the boat, occasion may arise for giving warning of her approach. The cells are placed under the seats which line the boat's sides, thus leaving the deck a clear space with the exception of the motor cover, which serves as a table a little abaft of amidships. The maximum radius of action of the boat is 33 or 34 sea-miles, as she is capable of running for four hours at seven knots or for eight hours at 4½ knots. At a recent trial, when the company were represented by Messrs. Alexander and Crewdson, the patentees, the launch ran up the harbour to

Porchester Creek and then out of harbour along the Southsea Front. Ample opportunity was afforded of testing the variation of speed and of her turning powers. Off Southsea Pier, when she was going at half-speed, the coxswain switched on full speed, and, putting the helm at the same time hard over, the boat completed the circle in less than twice her own length. At this phase of the trial the indicator showed that the pressure was 72 volts and the current 120 ampères, while the motor made 1,000 revolutions a minute. The H.P. at full speed was 114.—*Times*.

UNITED STATES.—

DESTRUCTION OF CERVERA'S FLEET.

OFFICIAL REPORTS OF ADMIRAL SAMPSON AND COMMODORE SCHLEY.

U.S. Flag-ship "New York," First Rate.

Off Santiago de Cuba, July 15th.

The Secretary of the Navy :

SIR,—I have the honour to make the following report upon the battle with and the destruction of the Spanish squadron, commanded by Admiral Cervera, off Santiago de Cuba, on Sunday, July 3rd, 1898 :—

2. The enemy's vessels came out of the harbour between 9.35 and 10.0 a.m., the head of the column appearing around Cay Smith at 9.31, and emerging from the channel five or six minutes later.

3. The positions of the vessels of my command off Santiago at that moment were as follows : The flag-ship "New York" was four miles east of her blockading station, and about seven miles from the harbour entrance. She had started from Siboney, where I intended to land, accompanied by several of my staff, and go to the front and consult General Shafter. A discussion of the situation, and a more definite understanding between us of the operations proposed, had been rendered necessary by the unexpectedly strong resistance of the Spanish garrison of Santiago. I had sent my chief of staff on shore the day before to arrange an interview with General Shafter, who had been suffering with heat prostration. I made arrangements to go to his headquarters, and my flag-ship was in the position mentioned above, when the Spanish squadron appeared in the channel. The remaining vessels were in or near their usual blockading positions, distributed in a semicircle about the harbour entrance, counting from the eastward to the westward in the following order : The "Indiana," about a mile and a half from shore ; the "Oregon," the "New York's" place between these two ; the "Iowa," "Texas," and "Brooklyn," the latter two miles from the shore west of Santiago. The distance of the vessels from the harbour entrance was from two and one-half to four miles, the latter being the limit of day-blockading distance. The length of the arc formed by the ships was about eight miles. The "Massachusetts" had left at 4 a.m. for Guantanamo for coal. Her station was between the "Iowa" and "Texas." The auxiliaries "Gloucester" and "Vixen" lay close to the land, and nearer the harbour entrance than the large vessels, the "Gloucester" to the eastward and the "Vixen" to the westward. The torpedo-boat "Ericsson" was in company with the flag-ship, and remained with her during the chase until ordered to discontinue, when she rendered very efficient service in rescuing prisoners from the burning "Vizcaya." I inclose a diagram showing approximately the positions of the vessels as described above.

4. The Spanish vessels came rapidly out of the harbour, at a speed estimated at from eight to ten knots, and in the following order : "Infanta Maria Teresa" (flag-ship), "Vizcaya," "Cristobal Colon," and the "Almirante Oquendo." The distance between these ships was about 800 yards, which means that, from the time the first one became visible in the upper reach of the channel, until the last one was out of the harbour, an interval of only about 12 minutes elapsed. Following the "Oquendo," at a distance of about 1,200 yards, came the torpedo-

boat-destroyer "Pluton," and after her the "Furor." The armoured-cruisers, as rapidly as they could bring their guns to bear, opened a vigorous fire upon the blockading vessels, and emerged from the channel shrouded in the smoke from their guns.

5. The men of our ships in front of the port were at Sunday "Quarters for inspection." The signal was made simultaneously from several vessels "Enemy's ships escaping," and general quarters were sounded. The men cheered as they sprang to their guns, and fire was opened probably within eight minutes by the vessels whose guns commanded the entrance. The "New York" turned about and steamed for the escaping fleet, flying the signal "Close in toward harbour entrances and attack vessels," and gradually increasing speed until toward the end of the chase she was making 16½ knots, and was rapidly closing in on the "Cristobal Colon." She was not, at any time, within the range of the heavy Spanish ships, and her only part in the firing was to receive the individual fire from the forts in passing the harbour entrance, and to fire a few shots at one of the destroyers, thought at the moment to be attempting to escape from the "Gloucester."

6. The Spanish vessels, upon clearing the harbour, turned to the westward in column, increasing their speed to the full power of their engines. The heavy blockading vessels, which had closed in toward the Morro at the instant of the enemy's appearance, and at their best speed, delivered a rapid fire, well sustained and destructive, which speedily overwhelmed and silenced the Spanish fire. The initial speed of the Spaniards carried them rapidly past the blockading vessels, and the battle developed into a chase, in which the "Brooklyn" and "Texas" had at the start the advantage of position. The "Brooklyn" maintained this lead. The "Oregon," steaming at amazing speed from the commencement of the action, took first place. The "Iowa" and the "Indiana," having done good work, and not having the speed of the other ships, were directed by me, in succession, at about the time the "Vizcaya" had been beached, to drop out of the chase and resume blockading station. These vessels rescued many prisoners. The "Vixen," finding that the rush of the Spanish ships would put her between two fires, ran outside of our column and remained there during the battle and chase.

7. The skilful handling and gallant fighting of the "Gloucester" excited the admiration of everyone who witnessed it, and merits the commendation of the Navy Department. She is a fast and entirely unprotected auxiliary vessel—the yacht "Corsair"—and has a good battery of light rapid-firing guns. She was lying about two miles from the harbour entrance, to the southward and eastward, and immediately steamed in, opening fire upon the large ships. Anticipating the appearance of the "Pluton" and "Furor," the "Gloucester" was slowed, thereby gaining more rapidly a high pressure of steam, and when the destroyers came out she steamed for them at full speed, and was able to close at short range, where her fire was accurate, deadly, and of great volume. During this fight, the "Gloucester" was under the fire of the Socapa battery. Within twenty minutes from the time they emerged from Santiago Harbour, the careers of the "Furor" and the "Pluton" were ended, and two-thirds of their people killed. The "Furor" was beached and sunk in the surf; the "Pluton" sank in deep water a few minutes later. The destroyers probably suffered much injury from the fire of the secondary batteries of the battle-ships "Iowa," "Indiana," and "Texas," yet I think a very considerable factor in their speedy destruction was the fire at close range of the "Gloucester's" battery. After rescuing the survivors of the destroyers, the "Gloucester" did excellent service in landing and securing the crew of the "Infanta Maria Teresa."

8. The method of escape attempted by the Spaniards—all steering in the same direction and in formation—removed all tactical doubts or difficulties, and made plain the duty of every United States vessel to close in, immediately engage,

and pursue. This was promptly and effectively done. As already stated, the first rush of the Spanish squadron carried it past a number of the blockading ships, which could not immediately work up to their best speed; but they suffered heavily in passing, and the "Maria Teresa" and the "Oquendo" were probably set on fire by shells fired during the first 15 minutes of the engagement. It was afterwards learned that the "Maria Teresa's" fire-main had been cut by one of our first shots, and that she was unable to extinguish fire. With large volumes of smoke rising from their lower decks aft, these vessels gave up both fight and flight, and ran in on the beach—the "Maria Teresa" about 10.15 a.m., at Nima, six and one-half miles from Santiago Harbour entrance, and the "Oquendo" about 10.30 a.m., at Juan Gonzales, seven miles from the port.

9. The "Vizcaya" was still under the fire of the leading vessels; the "Cristobal Colon" had drawn ahead, leading the chase, and soon passed beyond the range of the guns of the leading American ships. The "Vizcaya" was soon set on fire, and at 11.15 she turned in shore and was beached at Ascerraderos, 15 miles from Santiago, burning fiercely, and with her reserves of ammunition on deck already beginning to explode. When about 10 miles west of Santiago, the "Indiana" had been signalled to go back to the harbour entrance, and at Ascerraderos the "Iowa" was signalled to "Resume blockading station." The "Iowa," assisted by the "Ericsson" and the "Hist," took off the crew of the "Vizcaya," while the "Harvard" and the "Gloucester" rescued those of the "Infanta Maria Teresa" and the "Almirante Oquendo." This rescue of prisoners, including the wounded from the burning Spanish vessels, was the occasion of some of the most daring and gallant conduct of the day. The ships were burning fore and aft, their guns and reserve ammunition were exploding, and it was not known at what moment the fire would reach the main magazines. In addition to this, a heavy surf was running just inside of the Spanish ships. But no risk deterred our officers and men until their work of humanity was complete.

10. There remained now of the Spanish ships only the "Cristobal Colon," but she was their best and fastest vessel. Forced by the situation to hug the Cuban coast, her only chance of escape was by superior and sustained speed. When the "Vizcaya" went ashore the "Colon" was about six miles ahead of the "Brooklyn" and the "Oregon," but her spurt was finished and the American ships were now gaining upon her. Behind the "Brooklyn" and the "Oregon" came the "Texas," "Vixen" and "New York." It was evident from the bridge of the "New York" that all the American ships were gradually overhauling the chase, and that she had no chance of escape. At 12.50 the "Brooklyn" and the "Oregon" opened fire and got her range—the "Oregon's" heavy shell striking beyond her—and at 1.20 she gave up without firing another shot, hauled down her colours and ran ashore at Rio Torquino, 48 miles from Santiago. Captain Cook of the "Brooklyn" went on board to receive the surrender. While his boat was alongside I came up in the "New York," received his report, and placed the "Oregon" in charge of the wreck to save her, if possible, and directed the prisoners to be transferred to the "Resolute," which had followed the chase. Commodore Schley, whose chief of staff had gone on board to receive the surrender, had directed that all their personal effects should be retained by the officers. This order I did not modify. The "Cristobal Colon" was not injured by our firing, and probably is not much injured by beaching, though she ran ashore at high speed. The beach was so steep that she came off by the working of the sea. But her sea valves were opened and broken treacherously, I am sure, after her surrender, and, despite all efforts, she sank. When it became evident that she could not be kept afloat she was pushed by the "New York" bodily upon the beach—the "New York's" stem being placed against her for this purpose, the ship being handled by Captain Chadwick with admirable judgment—and sank in shoal water and may be saved. Had this not been done she would have gone down in deep water and would have been to a certainty a total loss.

11. I regard this complete and important victory over the Spanish forces as the successful finish of several weeks of arduous and close blockade, so stringent and effective during the night that the enemy was deterred from making the attempt to escape at night and deliberately elected to make the attempt in daylight. That this was the case I was informed by the commanding officer of the "Cristobal Colon."

12. It seems proper to briefly describe here the manner in which this was accomplished. The harbour of Santiago is naturally easy to blockade, there being but one entrance, and that a narrow one, and the deep water extending close up to the shore line presenting no difficulties of navigation outside of the entrance. At the time of my arrival before the port—June 1st—the moon was at its full, and there was sufficient light during the night to enable any movement outside of the entrance to be detected; but with the waning of the moon and the coming of dark nights there was opportunity for the enemy to escape or for his torpedo-boats to make an attack upon the blockading vessels. It was ascertained with fair conclusiveness that the "Merrimac," so gallantly taken into the channel on June 3rd, did not obstruct it. I therefore maintained the blockade as follows: To the battle-ships was assigned the duty, in turn, of lighting the channel. Moving up to the port at a distance of from 1 to 2 miles from the Morro, dependent upon the condition of the atmosphere, they threw a search-light beam directly up the channel and held it steadily there. This lightened up the entire breadth of the channel for half a mile inside of the entrance so brilliantly that the movement of small boats could be detected. Why the batteries never opened fire upon the search-light ship was always a matter of surprise to me, but they never did. Stationed close to the entrance of the port were three picket-launches, and at a little distance further out three small picket-vessels—usually converted yachts—and, when they were available, one or two of our torpedo-boats. With this arrangement there was at least a certainty that nothing would get out of the harbour undetected. After the arrival of the Army, when the situation forced upon the Spanish Admiral a decision, our vigilance increased. The night blockading distance was reduced to two miles for all vessels, and a battle-ship was placed alongside the search-light ship, with her broadside trained upon the channel in readiness to fire the instant a Spanish vessel should appear. The commanding officers merit the greatest praise for the perfect manner in which they entered into this plan and put it into execution. The "Massachusetts," which, according to routine, was sent that morning to coal at Guantanamo, like the others, had spent weary nights upon this work and deserved a better fate than to be absent that morning. I inclose, for the information of the Department, copies of orders and memorandums issued from time to time relating to the manner of maintaining the blockade. When all the work was done so well, it is difficult to discriminate in praise.

The object of the blockade of Cervera's squadron was fully accomplished, and each individual bore well his part in it, the commodore in command of the Second Division, the captains of ships, their officers and men.

13. The fire of the battle-ships was powerful and destructive, and the resistance of the Spanish squadron was, in great part, broken almost before they had got beyond the range of their own forts. The fine speed of the "Oregon" enabled her to take a front position in the chase, and the "Cristobal Colon" did not give up until the "Oregon" had thrown a 13-inch shell beyond her. This performance adds to the already brilliant record of this fine battle-ship, and speaks highly of the skill and care with which her admirable efficiency has been maintained during a service unprecedented in the history of vessels of her class. The "Brooklyn's" westerly blockading position gave her an advantage in the chase, which she maintained to the end, and she employed her fine battery with telling effect. The "Texas" and the "New York" were gaining on the chase during the last hour, and had any accident befallen the "Brooklyn" or the "Oregon," would have

speedily overhauled the "Cristobal Colon." From the moment the Spanish vessel exhausted her first burst of speed the result never was in doubt. She fell, in fact, far below what might reasonably have been expected of her. Careful measurements of time and distance gave her an average speed, from the time she cleared the harbour mouth until the time she was run on shore at Rio Tarquino, of 13·7 knots. Neither the "New York" nor the "Brooklyn" stopped to couple up their forward engines, but ran out the chase with one pair, getting steam, of course, as rapidly as possible on all boilers. To stop to couple up the forward engines would have meant a delay of 15 minutes, or four miles in the chase.

14. Several of the ships were struck, the "Brooklyn" more often than the others, but very slight injury was done, the greatest being aboard the "Iowa." Our loss was one man killed and one wounded, both on the "Brooklyn." It is difficult to explain this immunity from loss of life or injury to ships in a combat with modern vessels of the best type; but Spanish gunnery is poor at the best, and the superior weight and accuracy of our fire speedily drove the men from their guns and silenced their fire. This is borne out by the statements of prisoners and by observation. The Spanish vessels, as they dashed out of the harbour, were covered with the smoke from their own guns, but this speedily diminished in volume, and soon almost disappeared. The fire from the rapid-fire batteries of the battle-ships appears to have been remarkably destructive. An examination of the stranded vessels shows that the "Almirante Oquendo" especially had suffered terribly from this fire. Her sides are everywhere pierced, and her decks were strewn with the charred remains of those who had fallen.

15. The reports of Commodore W. S. Schley and the commanding officers are inclosed.

16. A Board appointed by me a few days ago has made a critical examination of the stranded vessels, both with a view of reporting upon the result of our fire and the military features involved, and of reporting upon the chance of saving any of them and of wrecking the remainder. The report of the Board will be speedily forwarded.

Very respectfully,

W. T. SAMPSON,

Rear-Admiral U. S. Navy, Commander-in-Chief U. S. Naval Force,
North Atlantic Squadron.

Accompanying this report is an order dated June 2nd, 1898, prescribing the order of battle and organising the fleet as follows:—

First Squadron—Under the personal command of the Commander-in-Chief: "New York," "Iowa," "Oregon," "New Orleans," "Mayflower," "Porter."

Second Squadron—Commodore Schley: "Brooklyn," "Massachusetts," "Texas," "Marblehead," "Vixen."

In a memorandum No. 13, dated June 7th, the Admiral said:—

I again call attention to the absolute necessity of a close blockade of this port, especially at night and in bad weather. In the daytime, if clear, the distance shall not be greater than six miles. At night or in thick weather not more than four miles. The end to be attained justifies the risk of torpedo attack, and that risk must be taken. The escape of the Spanish vessels at this juncture would be a serious blow to our prestige, and to a speedy end of the war.

Other memoranda direct as to the use of search-lights, providing that the vessels should take turns of two hours each, *i.e.*, from dark to 8 p.m., and from 8 p.m. to 10 p.m., etc., in keeping one search-light directly on the harbour entrance, and another on the coast-line, swinging it towards the Morro, but avoiding the illumination of the flanking videttes on the inside line.

In the memorandum of June 8th, the Admiral said:—

Attention is called to bad and careless handling of search-lights. Last night some of the lights were kept high in the air and were again swept rapidly from side to side. Under such circumstances a search-light is worse than useless. The

beams must be directed to the horizon, and must be moved very steadily and slowly. Not less than three minutes should be employed in sweeping through an arc of 90°. The best way to discover a torpedo-boat is by its smoke, and even this will not be seen unless the light is very well handled.

REPORT OF COMMODORE WINFIELD SCOTT SCHLEY.

Commodore Schley, commanding the Second Squadron, in his report, after describing the appearance and pursuit of the enemy's vessels, as reported by Admiral Sampson, says:—

I would mention for your consideration that the "Brooklyn" occupied the most westward blockading position with the "Vixen," and being more directly in the route taken by the Spanish squadron, was exposed for some minutes, possibly ten, to the gun-fire of three of the Spanish ships and the west battery at a range of 1,500 yards from the ships and about 3,000 yards from the batteries, but the vessels of the entire squadron closing in rapidly soon diverted this fire and did magnificent work at close range. I have never before witnessed such deadly and fatally accurate shooting as was done by the ships of your command as they closed in on the Spanish squadron, and I deem it a high privilege to commend to you for such action as you may deem proper the gallantry and dashing courage, the prompt decision, and the skilful handling of the respective vessels of Captain Philip, Captain Evans, Captain Clark, and especially of my chief of staff, Captain Cook, who was directly under my personal observation, and whose coolness, promptness, and courage were of the highest order. The dense smoke of the combat shut out from my view the "Indiana" and the "Gloucester," but as these vessels were closer to your flag-ship, no doubt their part in the conflict was under your immediate observation.

I have never in my life served with a braver, better, or worthier crew than that of the "Brooklyn." During the combat, lasting from 9.35 until 1.15 p.m., much of the time under fire, they never flagged for a moment, and were apparently undisturbed by the storm of projectiles passing ahead, astern, and over the ship.

The result of the engagement was the destruction of the Spanish squadron and the capture of the Admiral, and some thirteen to fifteen hundred prisoners, with the loss of several hundred killed, estimated by Admiral Cervera at 600 men.

The casualties on board this ship were: G. H. Ellis, chief yeoman, killed; J. Burns, fireman, first-class, severely wounded. The marks and scars show that the ship was struck about 25 times, and she bears in all 41 scars as the result of her participation in the great victory of your force on July 3rd, 1898. The speed-cone halliards were shot away and nearly all the signal halliards. The ensign at the main was so shattered that in hauling it down at the close of the action it fell in pieces.

I congratulate you most sincerely upon this great victory to the squadron under your command, and I am glad that I had an opportunity to contribute in the least to a victory that seems big enough for all of us.

I am glad to say that the injury supposed to be below the water-line was due to a water valve being opened from some unknown cause and flooding the compartment. The injury to the belt is found to be only slight and the leak small.

I beg to inclose a list of the officers and crew who participated in the combat of July 3rd, 1898.

I cannot close this report without mentioning in high terms of praise the splendid conduct and support of Captain C. E. Clark of the "Oregon." Her speed was wonderful and her accurate fire splendidly destructive.—*Army and Navy Journal*.

MILITARY NOTES.

PRINCIPAL APPOINTMENTS AND PROMOTIONS DURING JULY, 1898.

Field-Marshal Rt. Hon. Viscount Wolseley, K.P., etc., Commander-in-Chief, to be Colonel-in-Chief of the Royal Irish Regiment. Lieut.-General Sir W. J. Williams, K.C.B., R.A., to be Colonel Commandant R.A. General W. P. Tomkins, C.I.E., R.E. (late Bengal), to be Colonel Commandant R.E. Colonels E. M. Holley, R.A., W. F. Gatacre, C.B., D.S.O. (local Major-General), T. A. Cooke (Brig.-General), and G. de C. Morton, C.B., to be Major-Generals. Major-General R. M. Jennings, C.B., Bengal Cavalry, to command a First-class District, India. Colonel R. M. Clifford (local Brig.-General), to command a Second-class District, India. Colonel Hon. G. H. Gough, C.B., to be Assistant Military Secretary, Head Quarters.

HOME.—Major-General J. F. Maurice, C.B., R.A., *p.s.c.*, commanding the Woolwich District, has been elected a member of the Council of the Royal United Service Institution, in the place of Lieut.-General Lord William F. E. Seymour, appointed to command the troops in Canada. Lieut.-Colonel R. Holden, 3rd Bn. Worcestershire Regiment, has been appointed Secretary of the Royal United Service Institution, vice Lieutenant G. R. Maltby, R.N.

Major-General J. B. Sterling has kindly presented to the library of the Institution two interesting and rare volumes—"The Record Book of the Scinde Irregular Horse." They were printed and published in 1856 for private and confidential use in the regiment. The first volume treats of the period between the raising of the first regiment in 1839 to the year 1851, and the second volume takes one to the middle of 1855. It is known that these records were compiled by the celebrated Brigadier-General John Jacob, who from subaltern to colonel remained the commandant of the corps. He was assisted by only four European officers, two to each regiment of 800 men, and yet the discipline was so firm and the devotion so unquestioned that it was said not a trooper in the corps knew any will but that of his colonel. Jacob's theory was that Europeans were naturally superior to Asiatics, and that the natives, so far from resenting such ascendancy, desired nothing better than to profit by it. All they wanted was to obey, provided only that their obedience was claimed by one clearly competent to demand it.

On the fields of Meanee, Dubba or Hyderabad and Shah-dad-Poor, Jacob's Irregular Horse won great fame and they were soon considered some of the finest horsemen in India. Indeed, Jacob was a soldier of a rare type. He was a brilliant cavalry leader, the inventor of a greatly improved rifle, the originator of a military system, and a fine swordsman. The second volume of the Records, p. 164, contains a correspondence which will be read with interest at the present day, with regard to the value of "cuts" and "points." The following was Jacob's reply to the Commander-in-Chief on the subject:—"Experience in real fight shows that, for horse-soldiers, the cut is far more deadly and effective in every way than the point of the sword. The straight sword, and the use of its point, are far more formidable than the cutting sword in the hands of men on foot, and I was myself strongly prejudiced in their favour for use on horseback also, until many trials in the field quite convinced me of the contrary. On horseback, when moving at a rapid pace, as the cavalry soldier ought always to be in attacking, the arm, after a home-thrust, cannot be drawn back sufficiently quickly, the speed of the horse carries all forward with great velocity, and the

blade runs up to the hilt, or breaks before it can be withdrawn. I have had my own sword forcibly struck from my hand in this manner, the hilt striking with the greatest violence against a man's breast after the blade had passed through his body. The blade happened to be very good and strong, and the hilt was attached to my wrist by a stout leather strap; neither gave way, but as the horse passed on at speed, the body of the tall, heavy man who had assailed me turned completely round and over by the blade of the sword in it before the weapon could free itself. The violence of the shock, and the concurrent circumstances attending this and hundreds of other somewhat similar circumstances, perfectly convince me that on such occasions the chances are ten to one that the sword will break, or the cavalry soldier be torn from his seat, or both these accidents may occur. I have for long past had not a doubt but that the cutting-sword is by far the most formidable weapon for the hands of the cavalry soldier. The old, curved dragoon sabre is about its best form; these blades, made of the best English cast steel, mounted with steel basket-hilts, with scabbards lined with a complete scabbard of wood, appear to me to be the most perfect weapons possible. The native soldiers much prefer them to any Eastern blade whatever, and I can imagine nothing more effective. I have never used any sword exercise with the men of the Scinde Irregular Horse, thinking that it is not required; but I have myself witnessed very many instances of the terrible power of their cutting weapons, and those of the enemy. Two remarkable instances occur to me which it may be well to mention. At the battle of Meanee, a well-mounted Belooche warrior was flourishing his sword and challenging all comers. A sowar of the Scinde Irregular Horse rode at him at speed, and in an instant cut the man's head off at one blow. In the same battle, a sowar of the Scinde Irregular Horse, riding hard at the man opposed to him—a stout, able-bodied Belooche on foot, armed with sword and shield—the latter was knocked violently down by the horse's shoulder, but as he lay on his back on the ground, the Belooche warrior struck upward so violent a blow with his heavy curved blade, that the sword cut completely through both branches of the under jaw of the sowar's horse, and the front part of the animal's lower jaw, with all its incisor teeth, remained hanging by a piece of skin only. The force of this blow appeared to me so extraordinary, that I for long preserved the skull of the horse on which it took effect. In my opinion it would be of very great advantage to replace the straight swords at present in use by the broad, curved cutting-blade, like those now used by the Scinde Irregular Horse."

Many subjects of interest will be found embodied in the two volumes of the Records. In 1858, Jacob was authorised to raise two regiments of infantry, to be called "Jacob's Rifles," and to be armed with the pattern of rifle which he had invented, and, in face of great opposition, successfully developed. This rifle is fully described in the second volume. The same year, on the 5th December, 1858, he died of brain fever at Jacobabad. He had not once visited England in the thirty years after he first set foot in India.

In regard to the Requisitions for Troops in Aid of the Civil Power, the following will be substituted for the second sentence of Paragraph 51, Section VIII., of the Queen's Regulations and Orders for the Army, 1895:—

"In the cases of boroughs and cities, the requisition will be made by the mayor or chief magistrate, and not by any other magistrate, except on an emergency, but in Ireland the requisition may be made by divisional commissioners, resident magistrates, the chief and assistant commissioners of the Dublin Metropolitan Police, and officers of the Royal Irish Constabulary; where, however, a resident magistrate makes a requisition, it is to be sent to the officer commanding the troops through the office of the city, town, county, or district inspector of police."

The report of the Committee appointed by the Secretary of State for War to consider the "Decentralisation of War Office Business," has been presented to Parliament, and the following general recommendations have been made :—

"(1.) Your Committee recommend that a large amount of the business now transacted between departments of the War Office, between the War Office and districts, and in the districts themselves, by written minutes or despatches, be conducted verbally by personal communication, a subsequent memorandum being made of the conclusion arrived at. This recommendation follows on the lines of an order given by Lord Herbert, Secretary of State for War in 1861, in a minute respecting the conduct of business at the War Office, but it does not appear to have been generally acted upon.

Your Committee notice that in the department of the Inspector-General of Fortifications it has taken more than three years to settle the plans of the new barracks at Winchester; that the adjustment of a small rent charge of £20 has occupied this department and the Treasury Solicitor for over twelve months, and that as recently as September last seven weeks elapsed between the application of the General Officer Commanding to hut the recruits of the Guards, then under canvas, and the acceptance of the tender he proposed, the troops being consequently kept under canvas till the month of December.

Your Committee learned from the Inspector-General of Fortifications that these delays were to a large extent due to the many departments to which reference had to be made. The hutting of the Guards, though but a small sum was involved, concerned the Quarter-Master-General as to site; the Adjutant-General as to numbers; the Finance Branch as to cost; the Contracts Branch as to the contractor to be employed; the Treasury as to a possible excess on the votes, while in other cases the Treasury solicitor and the War Department valuer were also involved. But your Committee cannot doubt that, by personal consultation, business might be expedited and simplified. The higher officials of the War Office habitually meet, arrange business, and put a record on paper. If an officer in the branch chiefly concerned were similarly empowered to treat personally with other branches, papers which go to and fro for a fortnight could be settled by a few interviews of ten minutes apiece between officials distant from each other, at the utmost, a few hundred yards. Minutes should be replaced by memoranda, and written dialogues between officials should be the exception, and not the rule.

(2.) Your Committee find that the organisation of the Royal Artillery as one Regiment necessarily causes many references from the districts to the War Office which would not exist were there a regimental organisation more resembling that of the Infantry and Cavalry. Considerable advantages might be expected from a more decentralised system. Your Committee recommend the early consideration of this question.

(3.) The General Officer should have real control within his district, subject to general regulations, and the audit of his accounts. He should be encouraged to act for himself and not to refer to the War Office for decisions; he should in all cases settle the allotment of quarters to troops assigned to each station; he should, in communication with the Officer Commanding the unit, select drafts, the numbers of which have been designated to him by the War Office; he should appoint Adjutants and Depôt Officers, and settle all minor questions affecting the Auxiliary Forces; he should correspond direct with General Officers Commanding other districts, instead of through the War Office.

Under the above system the district, and not the War Office, would become the centre at which returns would be retained, and to which reference would be made. The control of the War Office over the districts should be secured by constant inspection, whether in questions of military training, of the execution of works, of stores, or of accounts. It is by inspection and not by returns and

reports that a General Officer's administration of his command can best be judged.

(4.) Your Committee hold that a large number of returns and reports may usefully be abolished. A schedule designating them is attached to the report. The abolition of one of these alone, relating to the employment of civil practitioners, will save 1,500 letters in a year.

A small Committee, including District General Officers and Regimental Officers, should sit annually to check the tendency to re-introduce reports and returns.

(5.) A list is attached of minor, or trivial, references to the War Office at present required, and which should be abolished.

(6.) The number of regulations which bind General Officers in allowance and other matters should be reduced and greatly simplified. This simplification would largely alleviate the present intricacies of the audit.

(7.) The excessive movement of units and of individuals, which entails constant work on the General and his Staff Officers, and considerable expenditure, should be reduced. It would be well if the movements of individuals could be ordered, as far as possible, periodically.

(8.) Your Committee note that the decision of a great variety of questions affecting military expenditure rests under regulations with the civil branch of the War Office, subject to an appeal to the Secretary of State, and they hold that the imposition of increased financial responsibility on General Officers should be accompanied by more complete association and union between the military and civil departments of the War Office.

(9.) If the recommendations of your Committee are adopted, they will, your Committee consider, relieve the War Office of 'the mass of detail by which the lower strata of that office are constantly flooded,' and of the 'number of petty cases with which an inferior Officer is quite capable of dealing.'

But unless the Treasury will consent to dispense with the control over small matters of expenditure which they now exercise, any large measure of decentralisation of financial responsibility is impossible."

General Sir Redvers Buller gave as his opinion that "the whole system of reports and regulations and warrants under which the British Army now serves has grown up entirely for the benefit of War Office clerks, and to find work at the War Office rather than to find control for the Army." He gave an illustration of this when speaking of the travelling regulations. He once went into a room in the War Office where a clerk kept an enormous book, and asked the man what it was for. He said it was to prevent travelling claims being paid twice over. On asking whether such a case had occurred, the clerk replied "once." Sir Redvers Buller then suggested that the book might be abolished altogether, and received the reply, "Then, what should I do?"

The control exercised at the War Office appears to be carried to the minutest detail. It is not possible for even the Field-Marshal commanding in Ireland to transfer a single man of the Artillery in his command from one battery to another without a reference to the regimental headquarters. H.R.H. the Duke of Connaught, commanding the Aldershot District, in his evidence produced cases in which nine signatures were required, including one reference to London, to transfer one gunner from one battery to another in his command, and twelve signatures, including two orders from London, to return an unsatisfactory driver from the Royal Artillery District Staff at Aldershot to his battery at Woolwich. The general officer commanding a district cannot even order straw hats for a working party at the cost of a few pence. He can only sanction repairs of clothing providing the cost is under 3s. 6d. He must apply to the War Office if a funeral costs more than £2.

The numbers of recruits enlisted during the quarters ending on the 30th June, 1897 and 1898 respectively, were 6,074 and 7,835, of whom 1,805 and 2,554 were respectively specials. The numbers of infantry recruits who joined the territorial regiments of the districts to which they belonged during the same periods were 1,905 and 2,203, the numbers who did not so join being 1,826 and 2,470. The number of reservists who rejoined during the quarter ending the 2nd July, 1898, were:—For the Royal Artillery, 101; for the Foot Guards, 11; and for Infantry of the Line, 884. The total net gain to the Army in the three months was 2,454, as compared with a loss of 508 last year. During the six months ending June 30th, 1897 and 1898 respectively, 2,829 and 3,361 Militia recruits joined the English battalions, 811 and 1,001 joined the Scottish, and 340 and 337 joined the Irish. Thus during the six months ending June 30th, 1898, 719 more recruits joined than during the same period in 1897.

Authority has been given to reservists of the Royal Army Medical Corps (Sections B and C) to rejoin the colours to complete either seven or twelve years from the date of attestation, according to the terms of their service, as follows:—(1) Men enlisted for three years with the colours may rejoin to complete seven years' service from the date of attestation, provided they have two years still to serve (those who cannot give two years may rejoin to complete twelve years); (2) men who enlisted or extended their service to complete seven years' colour service, provided they can give two years from the date of rejoining; (3) men of over ten years' service will not be permitted to rejoin. No refund of deferred pay received on transfer will be required, and all ranks rejoining will be granted a free kit. Non-commissioned officers will be permitted to rejoin in the ranks they held at the time of transfer.

A General Order has been issued by the Government of India directing the publication of a despatch from Lieut.-Colonel R. G. C. Mayne, Indian Staff Corps, in which he describes the operations of the troops which recently proceeded under his command to Mekran for the purpose of quelling the disturbances there. The Governor-General remarks that great credit is due to Lieut.-Colonel Mayne and the officers and troops employed for the creditable manner in which the operations were carried out. Lieut.-Colonel Mayne's skilful dispositions during the action at Gok Parosh, and the gallantry shown by the small body of troops under his command against large numbers of the enemy, who were completely routed, are deserving of special mention, especially as this is the first time the 30th Bombay Infantry has been employed on active service.

The profits arising from the Royal Military Tournaments held in London during the last five years have been as follows:—In 1894, £3,000; in 1895, £1,000; in 1896, £2,000; in 1897, £12,000; and in 1898, £10,500. For the years 1894 to 1896 the profits were applied in aid of the Cambridge Fund for Old and Disabled Soldiers; for 1897-8, the profits are being distributed among various military charities which the Commander-in-Chief considers most deserving. Thirty-eight charities were assisted in 1897, the donations varying from £5 to £2,000.

Army Order No. 93, of 1898, contains the following Royal Warrant, creating the Royal Army Medical Corps:—

“VICTORIA R.I.

WHEREAS WE have deemed it expedient to alter in certain respects the conditions under which the officers employed upon the medical duties of Our Army are at present serving;

OUR WILL AND PLEASURE IS that the officers below the rank of surgeon-major-general serving in Our Army Medical Staff shall be formed into a corps, together with the warrant officers, non-commissioned officers, and men of Our Medical Staff Corps;

IT IS OUR FURTHER WILL AND PLEASURE that the designation 'Medical Staff Corps' shall be abolished, and that the corps formed as above mentioned shall be styled 'The Royal Army Medical Corps.'

The following alterations will consequently be made in the ranks of the medical officers of Our Army:—

<i>Present Ranks.</i>	<i>New Ranks.</i>
Surgeon-colonel.	Colonel.
Brigade-surgeon-lieutenant-colonel.	Lieutenant-colonel.
Surgeon-lieutenant-colonel.	
Surgeon-major.	Major.
Surgeon-captain.	Captain.
Surgeon-lieutenant.	Lieutenant.

The medical staff of Our Army shall in future consist of surgeon-generals (ranking as major-generals), and the title of surgeon-major-generals now serving shall be altered accordingly.

Officers of Our Royal Army Medical Corps holding appointments in Our household troops shall be borne as seconded officers on the establishment of Our Royal Army Medical Corps, and shall be dealt with as regards pay and promotion in accordance with the rules laid down in Articles 384, 385, and 387 of Our Warrant for the Pay, Appointment, Promotion, and Non-Effective Pay of Our Army, dated the 26th April, 1897.

Given at Our Court at Windsor, this 23rd day of June, 1898, in the 62nd year of Our Reign.

By Her Majesty's Command,

LANSDOWNE."

VICKERS 3-INCH 12½-POUNDER QUICK-FIRING FIELD EQUIPMENT.

The gun for this equipment is of steel and wire construction, and is 23·5 calibres long, its total length from the breech face to the muzzle is 6 feet 3½ inches; and with a charge of 14 ozs. of cordite and using 12½ lbs. shot, a muzzle velocity of 1,600 feet per second, and a muzzle energy of 222 foot-tons are obtained.

The gun is also constructed to take a 1 lb. charge, which will give a muzzle velocity of 1,720 feet, and a muzzle energy of 256·4 foot-tons.

The breech mechanism is opened or closed by the horizontal movement of a hand-lever, so that the same action rotates, locks, or unlocks the breech plug and swings it around the pivot on which it is mounted. The arrangement consists of a link, one end of which is pivoted on a pin projecting from the rear face of the breech plug, so that the link works in a plane parallel to the breech face of the gun, the other end of the link is pivoted to a short crank which is mounted on the plug carrier, and around the boss of this crank are formed skew gear teeth.

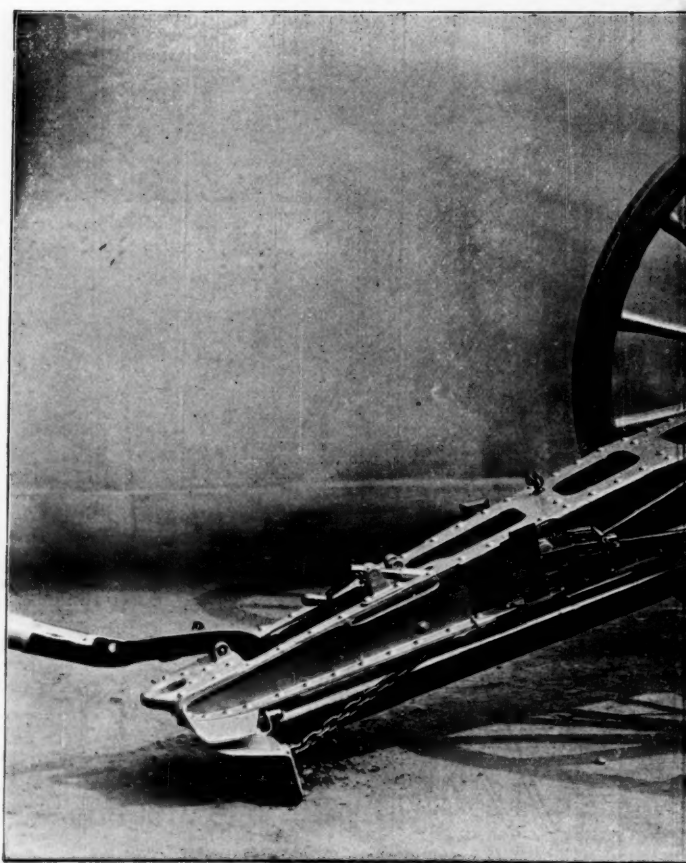
The hand-lever for actuating the breech mechanism is pivoted on the plug carrier and moves in a plane at right angles to the breech face of the gun. Around the boss of this hand-lever is fitted a skew gear wheel, which gears with the skew gear teeth, formed on the boss of the crank.

The whole is arranged and proportioned in such a manner that when the breech is closed the hand-lever lies close up to the breech face of the gun, also the centres of the link and crank are arranged that when the breech is closed the centre lines of the link and crank form a nearly straight line, the pivot joint of the link and crank being a little past the dead centre thus forming a locking point. This arrangement of centres and pivots together with the relative lengths of the link and crank provide great power when opening or closing the breech.

On swinging the hand-lever away from the gun when opening the breech, the crank moves the link past the locking centre a short distance without causing any perceptible movement of the plug. The further movement of the hand-lever causes the crank to turn, and by means of the link rotates the plug at first very

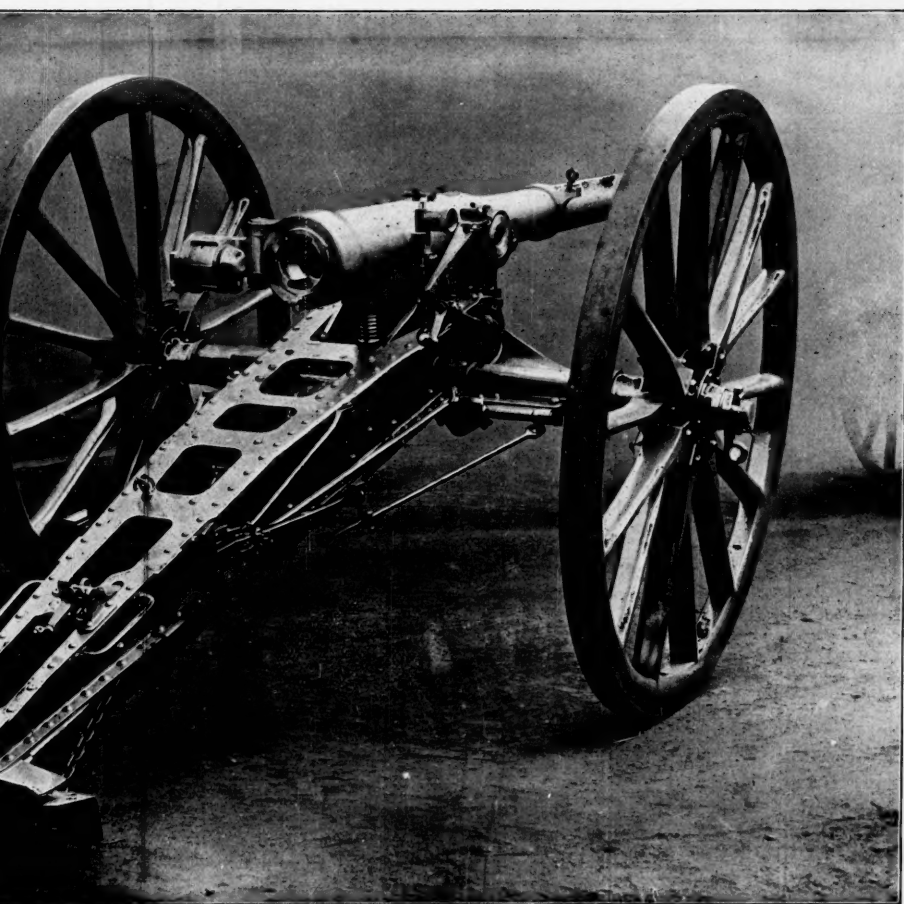


THE NEW VICKERS

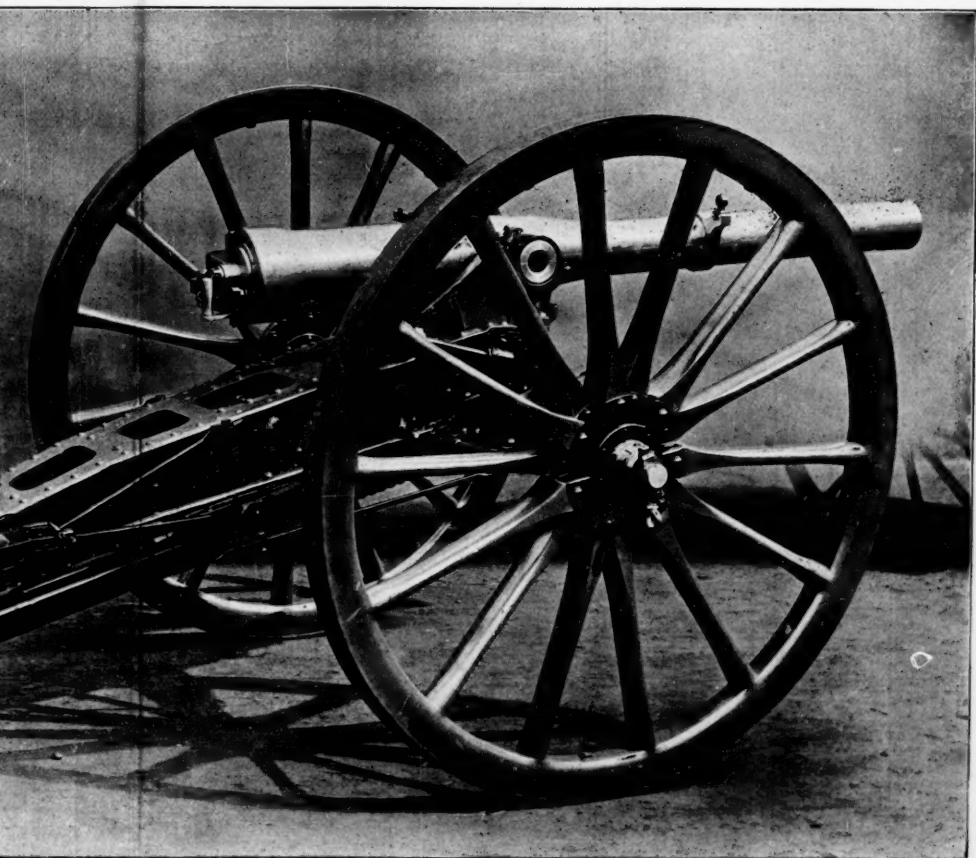


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THE NEW VICKERS



NEW VICKERS 12½-POUNDER Q.F. FIELD-GUN.



NEW VICKERS 12½-POUNDER Q.F. FIELD-GUN.

J. J. K. & Co., London.

slowly (thus obtaining great power) and then more rapidly until it becomes unscrewed, the carrier then moves with the lever swinging the plug clear of the gun.

The firing gear is arranged for firing with the English Service friction tube or with the English Service percussion tube, and is operated by the link of the mechanism so that at the first movement to unlock the breech plug it becomes impossible to fire the gun.

An extractor is fitted to this firing gear which automatically ejects the empty tubes during the opening of the breech mechanism.

The breech plug is of special construction, and is threaded in segmental portions in steps of varying radii. By this arrangement the plug, which is divided into six segments, has two-thirds of its circumference threaded and useful for meeting the strains on the breech, while the ordinary breech plug has only half its circumference threaded and similarly useful.

This enables the breech plug to be very short.

Owing to the shortness of the breech plug it can be swung clear of the breech after unlocking without any curvature, and without the usual longitudinal withdrawal of the plug, even though the De Bange obturator is used.

The mounting consists mainly of the following parts :—

1. The trail.
2. The top carriage.
3. The hydraulic buffer.
4. The wheels and axle tree.

The characteristic feature of this carriage consists in the way in which the recoil is taken up. A long recoil is allowed for, viz., about 30 inches, so that there is no sudden jerk or strain thrown on the structure, but the energy of recoil is gradually absorbed by the buffer and spring until the moving parts are brought to a state of rest, then the spring re-asserts itself and returns the gun to the firing position.

The system may be briefly described thus :—

All parts of the mounting are free to recoil except the hydraulic buffer which is placed between the outside plates of the trail, the front end of the buffer piston is fixed to the front end of the mounting, and to the rear end of the buffer is attached a strong spade, the buffer is further attached to the spade by a chain.

The trail is of special form and length so as to slide freely back, and all "jump" is obviated. On firing, the spade is forced into the ground, thereby arresting all movement of the buffer rearwards, but the trail being free to move to the rear, forces the piston rod into the hydraulic buffer, thereby displacing the liquid, at the same time compressing the powerful spring. After the energy of recoil has been absorbed, the power stored up in the spring serves to run the gun forward in the firing position again.

The gun is connected by trunnion bearings to the top carriage, which is pivoted to the front part of the trail, so that it can be trained through an arc of 6° (i.e., 3° on either side of the axis of the mounting), thus permitting of small adjustments in laying without any movement of the trail.

If required, the hydraulic buffer can be removed in about one minute, the mounting may then be used as an ordinary field carriage, and the recoil (which is then about 7 feet) is checked by means of ordinary shoe brakes applied to the tires of the wheels.

LORD DUNDONALD'S GUN CARRIAGE.

At the Cavalry Field Day Ground in Windsor Park, a partial trial was recently made of the galloping gun carriage for machine-guns invented by Colonel the Earl of Dundonald, commanding the 2nd Life Guards. The word "partial" is not used in a carping sense, but simply to indicate the fact that the carriage was not tried over really rough ground, but upon good and smooth turf,

and it was necessary, and quite easy, to rely upon Lord Dundonald's statement that it had been submitted with success to tests far more severe in the way of obstacles. Those former trials were of a public character, and were reported upon officially in favourable terms. Ever since the Princess of Wales, at a Wimbledon Meeting many years ago, caused the bullets from a Maxim gun to cut a long target from end to end with bullet-holes, as regular in their sequence as those which divide a cheque from its counterfoil, I have been profoundly convinced that machine-guns of this type, provided that they could be brought into action quickly, were the weapons of the future. The evidence given on this occasion strengthened that conviction, for an officer who had recently been in charge of machine-guns on active service announced publicly that it was his experience that at any distance up to 1,000 yards the enemy simply could not face them. Bravery in the face of Maxim gun-fire within that distance is of no more practical value than it would be in a crop of standing hay before the mowing machine. Lord Dundonald's efforts have been directed to the purpose of so improving upon the existing cavalry machine-gun carriage that the guns, of which he would allot two to each squadron, may be able to accompany cavalry into action, and may be as rapid in movement as cavalry themselves. Let us consider the ordinary cavalry Maxim gun carriage. It weighs, said Lord Dundonald, 9 cwt., it requires the services of two horses, it cannot be moved from place to place rapidly without horses, it is not detached from its horses with ease, its traverse of fire is only 120° and the method of supplying the gun with ammunition is slow. For his carriage, Lord Dundonald claims that it weighs rather less than 400 lbs., and, besides being drawn easily by a single horse accompanying cavalry at the gallop, that it can be easily moved and fired by one man. This was clearly proved, when two machine guns accompanied a squadron of the 2nd Life Guards, who went away at the trot, advanced at the gallop, and then acted as dismounted cavalry. The machine-guns were actually in position, detached from the horses, and firing their rounds before the dismounted men. Then first a stalwart trooper and later a drummer boy ran the gun and carriage about with ease. So much for the mobility of the carriage.

The ease with which it can be detached from the horse and with which any horse from the ranks can be taken to replace one which may be hit are also remarkable points. The horse, in the first place, carries the ordinary cavalry saddle and so forth. In addition, he carries, by means of a breeching, a short pair of shafts (of hickory or lancewood and steel) of which the front ends go into leathern sockets just short of the horse's girths. These shafts are united in the rear, and at the point where they meet is a cup with a certain amount of play in it. The attachment of the carriage to the shafts or its detachment from them are matters of a second's work only. The round steel bar, which is the rearmost part of the carriage, is passed into the cup, and a steel bolt is dropped into the apertures provided. The carriage is then attached. Take out the bolt and the carriage is detached. During the act of firing, the horse is hobbled and cannot get away, so that one man can manage the whole business. Each carriage, still within the weight of 400 lbs., carries 1,500 rounds of ammunition in an automatic revolving cartridge carrier. Of such carriers two models were shown, and both seemed satisfactory. Last remains the important question how a carriage of such light weight and possessed of so much endurance and power of surmounting obstacles is constructed in the important details of wheel and axle. The axle is of steel; the wheels are of hickory and steel, with a light steel tire. The latter look very light, but it is believed that their strength is amply sufficient. In fact, the hickory wheels have survived a shock which bent the steel axle. The only fault that has yet been discovered was in the original shafts, when the carriage was tried last year; but those, as Lord Dundonald explained before they had been used, were merely a makeshift, the work of a Windsor blacksmith. For the rest, the carriage has been submitted to all sorts of tests without upsetting.

It has been driven with one wheel in the ditch and one in the road, and over piles of boxes without mishap. The secret of the success attained seems to lie in the nice adjustment of sustaining powers to load, in the fact that there is but one point of attachment between the shafts and the carriage, and in the fact that there is some play at that point. An eminently serviceable single-horse ammunition cart was shown at the same time.

AUSTRIA-HUNGARY.—A scheme has been submitted, but not yet adopted, for the re-organisation of the fortress artillery. It is proposed that the subsidiary corps, which are not strong enough to have independent existence, such as the balloon, field railway, electric and telephonic corps, should be incorporated in the fortress artillery. Ideas of this kind are finding their way into other armies. The extraordinary number and variety of duties devolving on the foot artillery demand our attention, considering that foot soldiers have only two years' service. All that is connected with battery construction has also to be learned, including the preparation of brushwood for gabions, fascines, etc.; the erection of towers, the repair of roads, and so on.

According to the plan under discussion, the fortress artillery would consist of twelve regiments, each having three battalions. The first or service battalion, and the second or working battalion, would be of the same strength, while the third would be made up of specialists, and might be weaker. The specialists' battalion would have four companies, of which two would be field railway corps, the third balloon and pigeon corps, and the fourth would include the other technical troops. Each company would be trained for its own particular purpose, and thus avoid the embarrassment of being set to do a hundred different duties for which there had been no preparation.—*Deutsche Heeres-Zeitung*.

FRANCE.—The introduction of Q.F. guns into the service has simplified the shooting arrangements, which are now reduced to the application of a few elementary principles. On the other hand, the command and direction of the artillery fire will have a new importance, and the artillery officer's art will henceforth consist as much in that as in rapidly taking up a position. The decision to which the commander of a battery comes should be influenced partly by his tactical relations to his own side, and partly by the different objectives offered by the enemy. He should exactly appreciate the value of partial results in carrying out the general idea of his commander.

As our schools of gunnery are restricted in space, and are not assisted by the other arms, the conditions of practice do not receive the attention they deserve. Officers commanding batteries cannot therefore obtain the instruction in dealing with unforeseen and varied situations, which is necessary to prepare them for their duties in the field. The best remedy for such a state of things is actual firing in co-operation with the infantry, but this fortunate innovation is still in its infancy, and it will be long before it can be carried out in all districts, and on a scale large enough to show appreciable results.

Meanwhile the Grand Manceuvres afford an opportunity of studying the subject under the most instructive conditions. Although firing blank, it is quite possible to see how the artillery is handled in the various stages of the combat, but very little attention has been given to this particular part of the duty. It is nevertheless of some importance to an infantry colonel to know whether the village on which he is marching is being bombarded or not.

Not merely for purposes of instruction, but likewise for those of well-founded criticism on the part of the general in supreme command, the objects fired at by the artillery should be distinctly defined. This, it appears to us, can be done better by guns than by flags, the artillery duel being notified by series of two guns fired with an interval of one or two seconds; series of three guns being used against

infantry, and of four against cavalry. This lets it be seen at any time, whether the artillery intervenes as it ought to do in actual warfare. It provides a new element of instruction for the battery officers; instead of their executing simple evolutions and firing at no target in particular, they will act in accordance with modern tactics, they will harmonise their action with that of the infantry, and let that harmony always prevail without doubt or uncertainty.—*La France Militaire*.

A Ministerial memorandum prescribes the reconstitution of the cyclist company of the 87th Regiment, in order that it may be attached to the 6th Cavalry Division in this year's manoeuvres. We shall, therefore, see a new experiment in the employment of combatant cyclists, and it will doubtless be not less convincing than that of last year. Our comrade Captain Gérard, the inventor of the *bicyclette pliante*, has favoured us with the following remarks on this question:—

"I see nothing to change in the ideas I expressed before the manoeuvres of 1897, in which I happily reduced them to practice, except that perhaps I did not sufficiently demonstrate the kind of machine most suitable for a combatant. I may now make good that omission. The cycle should admit of the rider's feet touching the ground while he is in the saddle. This condition is justified by the necessity that combatant cyclists should always be prepared to fire, whether they are moving or at rest. It should also be *portable*, by which I mean capable of being carried on the back without causing more fatigue or inconvenience than the haversack, while leaving the man's arms both free. To satisfy ourselves that it should be portable, let us look not only at individual cases but at a company of, say, 200 men, forming a proper tactical body. Send this company across country; if the enemy is at a distance and the land is dry it is easy to push the cycles on as the men advance, but if the soil is wet clay they will not be pushed far. The clay clogs the wheels and other parts of the machinery, so that they refuse to move. Here the cycle must be carried. I proved this to my cost in the last manoeuvres. The country on which we were operating was clay and it was wet with rains. I had to cross it with my company for a distance of 800 metres, and as the enemy was not near I thought it unnecessary to fold the machines, but when we had gone 200 metres the wheels would not turn. We were obliged to get back to the road. The men had to clean their cycles and then start with them on their backs. But clay is not the only hindrance. Corn, vines, etc., are almost impracticable from entangling the pedals.

The above are arguments in favour of portable cycles, but they are unimportant when compared with what I am about to submit. Let us suppose that a company of cyclists has been ordered to occupy a village as a point of *appui* for a cavalry division. If the enemy is not in occupation the company can enter it mounted, but if it is held by even a few dismounted cavalry, the company must extend like ordinary infantry, drive away the enemy, assault if necessary, or even proceed to fight him in the streets. How could this be done if every soldier were wheeling his cycle? The cycle must be on his back, and both his arms must be free.

Then again it may be said, 'Leave the cycles on the road, and let the company fight without them.' By so doing you risk the loss of the cycles, or if you place a guard over them you reduce your fighting strength. When the company returns to fetch the machines there is a loss of time, and the enemy may even resume the offensive. If the soldier can use both arms, and if the load is not more troublesome than the haversack, why not let him carry it on his back? My officers and myself generally carried our cycles on our backs in preference to wheeling them by hand. When there is nothing to be done on the roads, and there is no question of rapidity or surprise, the cyclist company should be a regular manoeuvring company of infantry. Unlike the cavalry when dismounted, it has no trouble with regard to its horses.

I consider it impossible for a company to cycle under fire. One has only to see a large number of cyclists surprised in a difficult situation to realise the confusion that is instantly produced. Direction is only possible when the order is to fight with the cycle on the back. Another consideration is that a column of 200 men would take up too much space with non-folding cycles, whether on the road or crossing country. The most important matter is to find the best and most convenient pattern of portable machine for combatant cyclists." General Plutzinski, who was in charge of the Russian experiments with folding cycles during the manoeuvres at Biélostok, has reported more favourably on Captain Gérard's *bicyclette pliante* than on any of the other machines under trial.

That the island of Ushant is still unfortified has given just cause of astonishment, considering that it is situated so near the entrance to Brest. This island, which every ship entering or leaving the Channel must take account of, would make an excellent base of operations for the torpedo-boats of a hostile fleet acting against Brest and the neighbouring coasts. The present military works are worthless, and were pronounced obsolete in 1889. At the suggestion of Vice-Admiral Fournier, Maritime Prefect, this want is about to be supplied. Artillery and engineer officers have traced three strong batteries, which are already under construction, and which will be armed with long-range guns. These batteries will be connected together by a strategic railway, and a detachment of the Railway Regiment has arrived at Brest to arrange for the construction of the line.—*Revue du Cercle Militaire*.

The War Minister had an interview, on the 27th July, with a deputation of mayors and other municipal authorities from the Jura. The object of the deputation was to make representations to the minister on the construction and maintenance of railways by which the national defence would be promoted.—*La France Militaire*.

GERMANY.—The usual spring training of the cavalry and infantry in field and outpost duties has not passed off so satisfactorily as in former years. Since the establishment of the great manoeuvre grounds, and the system of rotation by which they are occupied, some troops have to do their shooting and advanced exercises very early in the year, while others are delayed till close on the autumn manoeuvres. This year, for the first time, some have not been able to do their test firing at all. This unequal progress was never intended, and an order on the subject would be eagerly welcomed.—*Deutsche Heeres-Zeitung*.

ITALY.—On looking back at the ordeal through which the Italian Army lately passed, credit must be given to the soldiers for endurance and discipline and to the officers for energy and decision. There were present all the elements of a *fin de siècle* revolutionary war; the march of two columns of the three arms under two general officers, the employment of artillery for street fighting, the organisation of rifle fire by the insurgents from the upper parts of the houses, the taking over of the railway lines by the military authorities, the partial arming of the insurgents with rifles served out for the national target shooting, and so on. About 60,000 men were recalled from their homes to the Army. This unexpected mobilisation was effected in a few hours, although in extremely difficult circumstances, and, more than any pre-arranged mobilisation could do, proved the very high value of the Italian Army to united Italy and the Monarch.—*Die Vedette*.

RUSSIA.—The railway system of Russia, available for general traffic, had, on the 1st April, 1898, reached the measurement of 41,547 versts, of which 7,812 were of double lines. There are, in addition, 10,968 versts under construction, and if

we count two lines in Finland, there are altogether 11,114 versts. Some sections of these lines are already open for traffic. On the same date authority had been given for the construction of new lines, representing 682 versts. It is evident that Russia is making energetic efforts to get rid of the "plague of distances" from which she has hitherto suffered.

The Grand-duke Vladimir, while leaving the technical direction of the cavalry to the Grand-duke Nicholas, has issued the following instructions to the troops taking part in the summer drills:—1. To perfect the service of exploration, which should furnish exact information about the enemy, not only when he is in movement, but also when he is at rest. 2. To take advantage of all favourable opportunities for charging energetically during the course of a battle. 3. To pursue the enemy over and beyond the battle-field. 4. To perfect the instruction of the sappers so that they may be able to construct or destroy entrenchments with rapidity. 5. To send not merely small detachments but also cavalry divisions, with their horse batteries, across rivers either by swimming or by making use of the materials found on the spot.

As in former years, the infantry and cavalry detach a certain number of officers and men for the purpose of learning gun drill with the artillery. The Grand-duke advises the artillery to practise dealing with entrenchments, which are now more numerous on the battle-field than they formerly were. He said that the infantry should also perform the duties of exploration, by employing mounted orderlies, cyclists, and field telegraphists. With regard to the generals, they should attentively follow the exercises of the three arms, so as to become acquainted with their respective qualities, with a view to making the most of them on the day of trial. He looked forward with confidence to the summer drills of 1898, as the Guards and the troops of the St. Petersburg district had always shown so much zeal and energy. These drills precede the Imperial grand manœuvres.

General Kholadovsky, who has been appointed to the command of the artillery at Port Arthur, has left Odessa, taking with him the material for arming Port Arthur and Taliénwan. It comprises many mountain guns and fifty pieces of heavy ordnance.—*Revue du Cercle Militaire*.

SERVIA.—In 1896 it was determined to change the 15 Line battalions and 3 of the Guard battalions into regiments of 2 battalions each. This has now so far been accomplished, the above battalions, with the exception of one, having been formed into regiments. The Line regiments make 30 battalions, and 2 Guard regiments make 4, which, with three Guard battalions not yet changed, amount to 37 battalions. When the last-mentioned 3 battalions have been treated like the others, Servia will have 40 battalions of infantry.—*Die Vedette*.

SPAIN.—It is a peculiarity of small States that they bestow vast care on fortifications, while their armies are unfit to meet a stronger enemy in the open field. In such States the organisation of engineer troops receives special attention, and instead of being reckoned among subsidiary forces, as in large armies, they take an important place as components of the army. Examples of this can be seen in Belgium, and especially in Spain, whose engineers had the lion's share of the construction and repair of the Cuban coast defences.

The Spanish engineers consist of four regiments of sappers and miners, each composed of two four-company battalions, so that there is one battalion for each of the eight army corps. There is, in addition, a bridging regiment of four companies, all the men of which either are carried on the wagons or ride. The railway and telegraph troops must also be counted. The railway battalion of four companies is allowed to use a Government line of 100 kilometres for the instruction of its men in railway construction and traffic management. The telegraphic battalion

of four companies is sub-divided into eight, so that each army corps may have a telegraphic section. For mountain warfare there is a special telegraph brigade of two companies and four sections. A balloon company, a pigeon station, a topographic brigade, and establishments for construction, repairs, and photography, complete the organisation of the Spanish engineers. The officers pass through a course of five years at the Engineer School, about forty entering the service every year. The total number of officers is about 350.

A battalion of 450 men from each sapper regiment was sent out to Cuba, a bridging battalion of the same strength, and of telegraphic troops there was a still larger proportion in the island.—*Militär-Wochenblatt*.

SWITZERLAND.—According to the report of the Federal Military Department, on the voluntary military and gymnastic instruction of boys, of 3,871 communes or arrondissements having primary schools, 574 provide insufficient space for gymnastics, and 537 have none at all; 743 have no apparatus, and 3,148 have no rooms. Only 486 have gymnastic arrangements which are pronounced "sufficient." What causes the greatest surprise is that, year by year, the number of schools giving gymnastic instruction has been growing less. If, as has been long under contemplation, the preparatory gymnastic instruction be made obligatory, the object will be to develop young men normally before they enter the service. The Swiss society of officers have formally given an opinion in favour of making obligatory the preparatory military instruction of the young.—*Revue du Cercle Militaire*.

NAVAL AND MILITARY CALENDAR.

JULY, 1898.

- 1st (F.) Assault on San Juan Hill, Santiago, Cuba, by the United States forces; Spaniards driven within the fortifications.
- 3rd (S.) Severe engagement outside Santiago.
- 4th (M.) Destruction of Spanish Fleet, commanded by Admiral Cervera, by the United States Fleet.
- " " Military revolt at Monte Video in favour of the ex-President Herrera suppressed.
- " " Launch of first-class cruiser "Fourth of July" from Elswick Yard.
- 5th (T.) Launch of first-class battle-ship "Ocean" at Devonport.
- " " Launch of first-class cruiser "Amphitrite" at Barrow.
- " " Launch of training-ship "General Baquedano" from Elswick Yard, for Chilean Government.
- 6th (W.) Presentation of Colours by H.M. the Queen to the 3rd Bn. Coldstream Guards at Aldershot.
- " " Orders issued for the disbandment of the Italian Reserves of 1873-74.
- " " Launch of second-class cruiser "São Raphael" from the Forges et Chantiers de la Méditerranée at Havre, for the Portuguese Government.
- " " Launch of first-class armoured cruiser "Tokiwa" from the Elswick Yard, for Japanese Government.
- 7th (Th.) H.M.S. "Blenheim" left Portsmouth for China with new crew for "Barfleur."
- 10th (S.) Commencement of the bombardment of Santiago by the Americans.

- 11th (M.) Commencement of National Rifle Association Meeting at Bisley.
2nd Bn. Northamptonshire Regiment won the "Evelyn Wood" competition.
- 12th (T.) H.M.S. "Rainbow" paid off at Devonport.
- 13th (W.) 2nd Bn. Grenadier Guards left England for Gibraltar in the "Jelunga."
- 14th (Th.) Santiago enters into negotiations in regard to surrendering to the Americans.
- " " Last instalment of Greek war indemnity paid to Turkey.
- 15th (F.) "Army" team won the "United Services Challenge Cup" at Bisley.
- " " Martial Law proclaimed in Spain.
- 16th (Sat.) "England" won the Elcho Shield at Bisley.
- " " Launch of second-class cruiser "Protet" at Bordeaux for French Government.
- " " Launch of sea-going torpedo-boat "Cobra" from Yarrow's Yard for Austro-Hungarian Navy.
- 17th (S.) Santiago surrendered to the Americans under Major-General Shafter.
- 18th (M.) 2nd Bn. Grenadier Guards arrived at Gibraltar in the "Jelunga."
- " " Guantanamo and Caymamera, Cuba, surrendered to the Americans.
- 19th (Tu.) 1st Bn. Grenadier Guards left Gibraltar for Egypt in the "Jelunga."
- " " H.M.S. "Diadem" commissioned at Portsmouth.
- " " Launch of third-class cruiser "Psyche" at Devonport.
- 20th (W.) H.M.S. "Pique" arrived at Plymouth from China.
- 22nd (F.) Introduction of Supplementary Naval Estimates by First Lord of the Admiralty.
- 23rd (Sat.) Close of National Rifle Association Meeting at Bisley. Lieutenant D. Yates, 3rd Lanark R.V. Corps, won the Queen's Prize.
- 24th (S.) 1st British Brigade left Cairo for the front.
- 25th (M.) American troops, under General Miles, landed at Guanica, Porto Rico.
- " " Khalifa concentrated his forces at Omdurman. Egyptian gun-boats patrol Nile as far as Shabluka.
- 26th (Tu.) Nawab of Dir's troops defeat a band of Bajauris.

FOREIGN PERIODICALS.

NAVAL.

ARGENTINE REPUBLIC.—*Boletín del Centro Naval*. Buenos Aires: May and June, 1898.—"Some Remarks on Naval Tactics." "Mr. Hudson Maxim's Aerial Torpedo and Shells charged with High Explosives." "Under-water Compositions for the Hulls of Ships." "Foreign Naval Notes."

AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens*. No. 8. Pola and Vienna: August, 1898.—"The Navy in the Civil War between the United and Confederate States." "The Spanish-American War, with particular regard to the Naval Operations." "The Smokeless Nitro-Glycerin Powder." "The Italian Naval Manœuvres of 1897." "The Italian Naval Estimates for 1898-99." "Foreign Naval Notes."

BRAZIL.—*Revista Marítima Brasileira*. Rio de Janeiro: June, 1898.—"The Naval Battle of the Riachuelo." "Vasco da Gama." "Plastomenite." "The Penetration of Projectiles" (*continued*). "The National Navy." "The Evolution of Navies during the last ten years." "Foreign Navies."

FRANCE.—*Revue Maritime*. Paris: June, 1898.—“French Oceanography.” “The Expedition of Djidjelli (1864).” “The Defence of Coasts.” “The War-ships of the Future.” “The Employment of Artillery in Battle.” “United States Armour-piercing Projectiles.” “English, French, and German Battle-ships.” “The Speed of Ships-of-war.” “Broadside Submerged Torpedo-tubes.” “The Situation of Engineers in Modern Navies.” “Foreign Naval Notes.” “The Maritime Fisheries.”

Le Yacht. Paris: 2nd July, 1898.—“The Specialisation of Cruisers” (*continued*). “Yachting Notes.” “The Brazilian Battle-ship ‘Marechal Deodoro.’” “The end of the 120-gun ship ‘Ville de Paris.’” 9th July.—“The Destruction of the Spanish Squadron at Santiago; Cruisers and Battle-ships.” “Yachting Notes.” “The Naval Manœuvres.” “The United States Cruiser ‘Baltimore’” (with photograph). 16th July.—“After the Naval Battle of Santiago.” “Yachting Notes.” “The Second-class cruiser ‘Protet.’” “The ‘Ramilies’ and ‘Charles Martel’; a comparison.” 23rd July.—“The Re-organisation of the Higher Naval School.” “Yachting Notes.” “The Défense-Mobile of Bizerta.” “The Naval Manœuvres.” 30th July.—“Mr. Goschen’s Speech on the New Naval Programme.” “Yachting Notes.” “On the Tonnage of Racing Yachts.” “Official Report on the Loss of the ‘Bourgogne.’”

Le Moniteur de la Flotte. Paris: 2nd July, 1898.—“The New Minister of Marine.” “The Question of Steam Fishing-Sloops.” “The Spanish-American War.” “The Participation of the Navy in the Exhibition of 1900.” 9th July.—“The Spanish-American War.” “The Loss of the ‘Bourgogne.’” “The Navy in Parliament.” “The Naval Manœuvres.” “The New Naval Chief of the General Staff, Vice-Admiral Cavalier de Cuverville.” “The Spanish-American War.” “The Points d’Appui of the Fleet.” “The Loss of the ‘Bourgogne.’” “The Naval Manœuvres.” 23rd July.—“À propos of the War.” “The Loss of the ‘Bourgogne.’” 30th July.—“The Superior School of the Navy.” “Report on the Superior School of the Navy.” “The Spanish-American War.” “Security of Navigation.”

La Marine Française. Paris: 15th July, 1898.—“M. Lockroy, Rue Royale.” “The Gun-boat and the Trial of the ‘Dragonne.’” “The Sight at Long Distances.” “France in the Far East.” “Steam Boilers.” “The Crisis of the Mercantile Marine.”

GERMANY.—*Marine Rundschau*. Berlin: July, 1898.—“Strong Lights upon the Mediterranean” (*continued*). “Remarks upon Modern Nautical Astronomical Tables” (*continued*). “The Fitting-out and Employment of the Blockade-boats of the German Squadron on the East Coast of Africa, 1888-89, and Life on board them” (*continued*). “The German North-Pole Expedition.” “Military Sea-Transport.” “On the Means for Condensing Sea-water” (*continued*). “German Armour-plates and German Armour-piercing Guns” (*continued*). “The Spanish-American War” (*continued*).

ITALY.—*Rivista Marittima*. Rome: July, 1898.—“The Sale of Freightage Commissions.” “The Drama of the Philippines.” “The Transmitters for Communication at a Distance.” “The Classification of Merchant-ships.” “The Spanish-American Conflict” (*supplement*). Letters to the Director:—“Stockless Anchors in War-ships”; “Changing Bearings between the Units of a Fleet”; “Submarine Torpedo-tubes”; “On an Article in the *Journal of the Royal United Service Institution*” (a Criticism on the description of the “Curve of Research”). “Naval Notes.” “Notices of Books.” Plates of the “Diadem” (English), “D’Entrecasteaux” (French), “O’Higgins” (Chilian), “General San Martin” (Argentine).

PORTUGAL.—*Revista Portuguesa, Colonial e Marítima*. Lisbon: July, 1898.—“Geographical Denominations.” “Colonial Agriculture” (*continued*). “Colonial Interests” (*continued*). “*Sterculia Acuminata* (Kola-nut Tree).” “The Climate of the Congo.” “Naval Notes.”

SPAIN.—*Revista General de Marina*. Madrid: July, 1898.—“Induced Draught.” “Injuries to Machinery at Sea, and the Method of Repairing Them” (*continued*). “The Japanese Navy.” “Barr and Stroud’s Marine Telemeter.” “International Congress of Naval Engineers and Constructors.” “The Defence of Coasts.” “Regulator for Feeding the Thornycroft Boiler.”

MILITARY.

AUSTRIA-HUNGARY.—*Militär-Zeitung*. Vienna: 8th July, 1898.—“On the Organisation of our Double Landwehr.” “Comments on the Spanish-American War.” 16th July.—“Thoughts on Promotion in the Infantry.” “Comments on the Spanish-American War.” 24th July.—“The Method of Practical Instruction.” “Comments on the Spanish-American War.”

Organ der Militär-wissenschaftlichen Vereine. Vienna: July, 1898.—“Considerations on the Employment and Leading of the Artillery in Battle.” “The Establishments of the Transylvanian Regiments from 1836 to 1848.” “A Cruise in the White Sea in the Summer of 1897.”

Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens. Vienna: July, 1898.—“A suggested Rational Gun-carriage Theory.” “Dark Blue Cloth for Soldiers.” “On the Ignition of Fire-damp by Electric Heat and Light.”

FRANCE.—*Revue du Cercle Militaire*. Paris: 2nd July, 1898.—“Why the Military Cycle must be Portable.” “The Italian Field Artillery.” “Battle-ships and Cruisers.” 9th July.—“The Military Forces of the German Empire from 1888 to 1898.” “The Recruiting of the French Army in 1897.” “The Corps Artillery and the Four-Gun Batteries in Germany.” 16th July.—“Control of Fire.” “Tactics of Mountain Infantry.” “Personal Service in Holland.” 23rd July.—“The New German Field Gun.” “Tactics of Mountain Infantry” (*continued*). 30th July.—“The Spanish Army on the 1st August, 1898.” “The New German Field Gun” (*concluded*).

Revue d'Artillerie. Paris: July, 1898.—“The Small-Arms of the Italian Army.” “Note on the Thickness of Metal in Steel Guns.” “The English Field Artillery in 1898.” “Captain Cleeve’s Lecture on Geographical Distances.” “Modifications in the Austrian Field Artillery Material.”

Revue Militaire de l'Étranger. Paris: July, 1898.—“The Nicolas Staff Academy and the Russian General Staff.” “The Austrian Manceuvres in 1897.”

Journal des Sciences Militaires. Paris, July, 1898.—“Le Combat Complet,” by General Lewal. “The Ground, the Men, and the Weapons in War” (*continued*). “The Cycle in the French and Foreign Armies” (*concluded*). “Frederick the Great” (*continued*). “Small-bore Rifles and their Stopping Power.”

Revue de Cavalerie. Paris: July, 1898.—“Cavalry on the Battle-field.” “Spain.” “The Straight and the Curved Sabre” (with Drawings). “The Crossing of Rivers by Cavalry” (*concluded*). “On the Improvement of Half-bred Horses in the Army.”

Le Spectateur Militaire. Paris: July, 1898.—“Letters of General Cavaignac on Algeria” (*continued*). “The Spanish-American War” (*continued*). “Guerilla Warfare and the Commissariat Service” (*continued*). “Captain La Tour d’Auvergne, First Grenadier of the Republic” (*continued*).

Revue du Génie Militaire. Paris: July, 1898.—Has not yet been received.

Revue du Service de l'Intendance Militaire. Paris: May and June, 1898.—“A Study on the Refrigeration of Meat.” “The Production, Nature, and Treatment of Jute.” “On the Variation of Diet.” “The Action of Bran on Old Flour.” “A Report on Wools from Argentina.” “Loaves of Wheat, Maize, and Rye.” “An Agricultural Account of the Girope.” “Extracts from the Works of Parmentier.” “The Regulated Establishment of Piggeries.” “The Emergency Ration in the North American Army.” “Potages Maggi.”

Revue du Génie Militaire. Paris: July, 1898.—“Notes of Mining Work in an Old Well.” “Improvements in the Electric Lighting Arrangements at the Military School of St. Cyr.” “Light or Movable Constructions.” “Observatories in Timber.” “Vauban—Analysis and Extracts” (*continued*). “German Fortifications.” “A New Automatic Flushing Apparatus.”

GERMANY.—*Militär-Wochenblatt.* Berlin: 2nd July, 1898.—“Some Matter for Reflection” (*continued*). “A National Army and not a National Guard.” “Recruiting in Italy.” 6th July.—“Some Matter for Reflection” (*concluded*). “Recruiting in Italy” (*concluded*). 9th July.—“Remarks on Field Artillery Organisation.” “French Troops on the German Frontier.” 13th July.—“Remarks on Field Artillery Organisation” (*concluded*). “The French Army List for 1898.” “The Russian Detachment Manœuvres, with Especial Reference to the so-called Effective Attack.” 16th July.—“The Modern Education of Subordinate Leaders.” “The Russian Detachment Manœuvres, with Especial Reference to the so-called Effective Attack” (*concluded*). “Re-organisation of the French Infantry School of Musketry.” 20th July.—“More Words on National Horse-breeding for Military and Private Purposes.” “The Modern Education of Subordinate Leaders” (*concluded*). 23rd July.—“More Words on National Horse-breeding for Military and Private Purposes” (*concluded*). “On the Importance of Rapidity in Battle-firing.” “French Opinions on Infantry Battle-fire.” “The Health of the English Army.” 27th July.—“Archduke Charles of Austria.” “The Folding Cycle and the Cyclist's Outfit.” “The Spanish Engineers.” 30th July.—“The New German Military Penal Regulations.” “Archduke Charles of Austria” (*concluded*). “Exhibition at the Geographical Institute, Turin.”

Jahrbücher für die Deutsche Armee und Marine. Berlin: July, 1898.—“Marshal von Sachsen and his ‘Reveries or Memoirs on the Art of War.’” “More about Field Mortar Batteries.” “A Special Shell for Field Artillery.” “The 4-pounder Battery of the Rhenish Artillery in 1866.” “The Value of Railways in War.” “Studies on Ballooning and its Employment for Military Purposes.”

Deutsche Heeres-Zeitung. Berlin: 2nd July, 1898.—“England, East Asia, India, Egypt.” “Knesebeck's Memoirs.” 6th July.—“Austria-Hungary.” “The Re-organisation of the Portuguese Army.” 9th July.—“Germany, Russia, France.” “Knesebeck's Memoirs” (*concluded*). 16th July.—(*Double number*). “Italy.” “Our Army Horses and the Veterinary Department” (*continued*). “The Spanish-American War” (*continued*). 20th July.—“The Military Cycle.” “The Spanish-American War” (*continued*). 23rd July.—“Permanent Fortifications and General Brialmont's Views.” “The Spanish-American War” (*continued*). 30th July.—(*Double number*). “The Calling-up of Soldiers for the Maintenance of Public Order in Italy.” “Duke William of Württemberg.” “Thoughts on the Training and Use of War Dogs, and on the Possibility of Perfecting this Branch.”

Internationale Revue über die Gesamten Armeen und Flotten. Dresden: July, 1898.—“On the Germanising of Army Language and Terms” (*concluded*). “War and Sanitary Service Dogs.” “La Guerre.” “Retreat and Pursuit at Wörth” (*concluded*). “The Dalmatian Forces for Two Thousand Years.” “The Italian Army on Service.” “The French Corps of Officers and their Preparatory Education.” “The Russian Army of the Present.” “The Partition of Africa.” “The Spanish-American War.”

Neue Militärische Blätter. Berlin : June and July, 1898.—Have not yet been received.

ITALY.—*Rivista di Artiglieria e Genio.* Rome: June, 1898.—“Modifications in the Marconi Apparatus.” “The Defence of the Chitral Fort.” “Siege Tactics.” “Secondary Ballistic Tables.” “Collection of Studies by Officers of Engineers in the Belgian Army.” “Graphic Trajectory and other Special Tables for Fortress Artillery.” Miscellaneous Letters:—“Vickers Cannon”; “Erosion in Guns”; “Apparatus for Douche Baths”; “Automatic Aiming of Coast Artillery”; “Aiming by Observation for Campaigning Artillery in Covered Positions”; “The Berandi Domestic Motor.” “Military Notes.” “Notices of Books,” etc.

Rivista Militare Italiana. Rome: 1st July, 1898.—“The New Regulations for Promotion in the Army” (*continued*). “Automobile Carriages and their Use in War.” “The Piedmontese Army in the Campaign of 1815.” 16th July.—“The New Regulations for Promotion in the Army” (*concluded*). “Automobile Carriages and their Use in War” (*continued*). “The Piedmontese Army in the Campaign of 1815” (*continued*).

SPAIN.—*Memorial de Ingenieros del Ejército.* Madrid: July, 1898.—“Outlines of Defence, Fortifications, and Armament of Maritime Positions” (*continued*). “Practical Operations against the Insurgents of Cavite” (*continued*). “The Efficacy of the Heliograph.” “New Geometry of Triangles” (*continued*).

Revista Técnica de Infantería y Caballería. Madrid: 1st July, 1898.—“Geography in Military Education.” “Military Lectures: Profound Obedience.” “Geography of the Canaries.” “Central Administration in the various Military States of Europe.” 15th July.—“Some Considerations on Discipline and Military Moral.” “Admirals.” “Geography of the Canaries” (*continued*). “Central Administration in the various Military States of Europe” (*continued*).

SWITZERLAND.—*Revue Militaire Suisse.* Lausanne: July, 1898.—“The Manœuvres of the 2nd Army Corps in 1897” (*concluded*). “Quick-firing Field Artillery from a Tactical Point of View.” “Courses for Under-Officers and Soldiers.”

UNITED STATES.—*Journal of the Military Service Institution.* New York: July, 1898.—“Reply to General Porter’s Articles.” “Magnetic Qualities of Gun Steel.” “American Grasses and Herbage.” “The Care of the Soldier in Camp.” “The Abbott Mortar Battery.” “Reprints and Translations.” “Military Notes.”

NOTICES OF BOOKS.

Benin the City of Blood. By Commander R. H. BACON, R.N., Intelligence Officer to the Expedition. London and New York: Edward Arnold. 1897.

Shortly and succinctly written, Commander Bacon gives us a very brief but intensely interesting account of what occurred during the Benin Expedition of 1897. The book was written, for one reason, to tell the friends and relations of those who perished in the cowardly massacre of the peaceful mission to Benin in the January of 1897, how the brutal outrage was rapidly and energetically avenged. Secondly, its purpose was to leave on record “certain details of organisation and equipment which may be useful in the future to officers serving on similar expeditions.” As such it must prove of the very greatest interest to naval officers. The Benin Expedition was a naval one, pure and simple, and as such it was a masterpiece in the way of showing what innate excellence of organisation the British Navy

possesses for the carrying out of land operations of this description. Here are the conditions that had to be met. Operations to be undertaken in one of the most unhealthy climates in the world. A route to be traversed through dense and almost impenetrable bush jungle of the worst kind. Transport only possible by means of carriers with a limit of some 50 lbs. to the load. No contractors or outside labour available for formation of coolie corps and organisation of loads. The men, in fact, who were the fighting units of the force having to make even the boxes and outfit in which everything had to be carried. And, remember, everything had to be carried, provisions, baggage, ammunition, and even water, and all loads packed and tallied to a given weight. In truth, the expedition was one that the Navy may well be proud of and that proved—what we all already well know—that in the *personnel* of our bluejackets and marines we have a force that is unequalled in any military force that the world has yet produced. And we are glad to see Commander Bacon's quiet and unexaggerated story of its achievements put on record.

Hannibal. By THEODORE AYRAULT-DODGE, Lieut.-Colonel, U.S.A. 3rd edition. Boston: Houghton, Mifflin and Co. 1896.

Cæsar. By the same. 3rd edition. 1894.

These form part of a series of six volumes giving the history of the art of war from the earliest times down to 1815. The two last volumes, dealing with Frederick and Napoleon, are not yet published. Colonel Dodge was well equipped for the task he has undertaken. After learning something of military theory at Berlin, he served in the American Civil War, and lost a leg at Gettysburg. Since his retirement from the United States Army he has travelled in Europe, and followed in the track of the operations he had to describe. He has spared no pains to master the campaigns himself, and to present them to his readers. The books are profusely illustrated, and plans are given—rough, but adequate—of all the more important actions.

The style is clear, crisp, and vigorous. There are good indexes, and at the head of each chapter there is an excellent summary of its contents. But there is one serious drawback: Colonel Dodge gives no references. For a mere popular outline this would be excusable; but readers who are prepared to follow him through some seven hundred closely-printed pages about Hannibal or Cæsar will sometimes want to know the ground of his rather confident assertions.

There is no more vexed question than that of the position of the two armies at the battle of Cannæ. On this point he remarks in his preface:—"All historians have found it necessary to discard one or more of the positive statements of Polybius and Livy. But a study of the battle-field has made it possible to explain the positions and manœuvres so as to coincide with every statement of these, our two most important authorities, as well as to accord with the probabilities." Now Polybius and Livy agree that the Romans had their right, and the Carthaginians their left, on the Aufidus. Colonel Dodge places the Carthaginians between the Romans and the river, and strains agreement with the texts by supposing that Varro's cavalry was perhaps thrown round in a crotchet to the river, and that Hannibal's left wing conformed. The disposition adopted by Mr. Strachan Davidson, in his "Selections from Polybius," agrees far better with the authorities. He places the two armies at right angles to the river, and on the right bank of it.

The question turns largely on the preliminary movements. Colonel Dodge says that the consuls first encamped near Canusium, then moved their camp half-way to Cannæ, and then sent a third of their force across the Aufidus "to a place a trifle down stream," where they made a smaller camp. But Canusium is not mentioned by Polybius or Livy. They do not say whether the main camp of the Romans was on the right bank or the left, but Polybius says that the detachment sent across the river was to advance *up the stream*, after crossing, and intrench itself. This points to a passage below Cannæ, and from the left bank to the right.

Nero's march to join the other consul, Livius, before the battle of the Metaurus, was undoubtedly "one of the most noteworthy marches in history." Colonel Dodge reckons the distance as two hundred and fifty miles, marched in seven days, and back again in six, or thirty-eight and a half miles a day. We might surely have expected of him some discussion of so astonishing a performance, and of the authority upon which it rests. Sir George Colley showed that even Napier's statement about the march of the Light Division to the field of Talavera broke down under examination.

The account of the Roman military institutions is full, but not very accurate. "There is a vast deal of disagreement as to details in all the ancient writers, each one being apt to speak about a period with which he was most familiar. Vegetius, Onosander, Polybius, and Livy are utterly at variance on many points. A life's work could not reconcile all their differences; nor is it worth while. One can come very close to the truth, and this is all that is called for." But to mix up the Servian and the manipular organisations, as in the statement that "the three first classes were set up as three lines, the best in the rear, the least good in front" (Hannibal, p. 43), is to depart widely from Polybius, who makes the distinction between the three lines rest on age, and not on property. And why, in face of his statement that the "hastatus" and the "princeps" were armed alike, are they so differently represented on page 55?

In dealing with Cæsar, the author is on firmer historical ground, and he can make use of the researches set on foot by Napoleon III., and continued by Colonel Stoffel. He is not quite just to the professional soldier of Cæsar's day, as compared with the militiaman of the Punic wars. The "cohort" organisation, instead of being "the inevitable result of the loss of the old Roman patriotism, discipline, and stanchness in the legionary soldier, and of his being replaced by a far inferior man who needed to be held well in hand to force him to his work," was probably due to the growth of the Roman armies, and their wider and more varied service. There are occasional slips, e.g., two men, Hirtius and Pansa, are rolled into one (p. 700). But the story is well told, the criticisms are sound, and the book may be strongly recommended as, what it claims to be, a military history of Cæsar.

Deeds that Won the Empire: Historic Battle Scenes. By the Rev. W. H. FITCHETT ("Vedette"). With portraits and plans. Fourth edition. London: Smith, Elder and Co., 15, Waterloo Place. 1898.

If any one wishes to put into the hands of a high-spirited British boy a thrilling tale of the heroic deeds of his predecessors, he could not give him a better account than this useful compendium of many well-known but still instructive military and naval engagements, the successful issues of which have, as the author truly asserts, "Won the Empire." And if that Empire is to be maintained for all time, living as we now are on the eve of stirring events, the deeds so skilfully depicted in Mr. Fitchett's pages should be useful as a pattern for those serving and who may yet serve in the naval and military forces of the Crown.

That the above book is not, however, without some blemishes can be seen by pointing to its arrangement. Not only are the several military and naval scenes presented to us out of all chronological order, but they are arranged on no apparent system at all. The names too of at least two well-known and historical engagements have been changed without any explained cause. Thus, for the "Siege and Capture of Quebec" and the "Battle of Copenhagen," we are referred to headings—"The Heights of Abraham" and the "Battle of the Baltic" respectively. Furthermore in the account of the second of these two engagements and in the account of the "Naval Fight in the Aix Roads," one searches in vain for the names of the Danish admiral and of the French admiral, opposed to Sir Hyde Parker and to Lord Gambier respectively (or, perhaps more correctly to Lords Nelson and Cochrane, in either case).

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